# DwA: Draw with(out) Authority

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## ABSTRACT

This study was conducted in the Viarco pencil factory and addresses the development of ArtGraf N°1, water-soluble graphite putty, and its use in pedagogical and artistic contexts. Accordingly, drawing workshops were carried out in arts schools in order to perceive how individuals interact with the material, whereby, and in association with the experiments made by the researcher, the physical and mechanical properties of ArtGraf N°1 were studied. This study also counted with the participation of artists and drawing teachers that experimented ArtGraf N°1 and gave their feedback on its use in their drawing and teaching practices.

Since the study was carried out in the industrial, the academic and the artistic contexts, the researcher establishes relations between them and reflects upon the connections between the research and the artistic practices. Therefore, the use and significance of ArtGraf N°1 are addressed in the researcher's experimentation process as well as in the development of his artistic practice. The approach to this research was made through a methodological process constructed by the researcher entitled DwA: *Draw with(out) Authority*.

## RESUMO

Este estudo foi realizado na fábrica de lápis Viarco e aborda o desenvolvimento do ArtGraf N°1, pasta de grafite solúvel em água, e o seu uso em contextos pedagógicos e artísticos. Por conseguinte, foram realizadas oficinas de desenho em escolas de artes para perceber como os indivíduos interagem com o material. Desta forma, e em associação com as experiências feitas pelo investigador, foram estudadas as propriedades físicas e mecânicas do ArtGraf N°1. Este estudo também contou com a participação de artistas e professores de desenho, que experimentaram o ArtGraf N°1 e deram conta da experiência com este material nas suas práticas de desenho e ensino.

Uma vez que o estudo foi realizado nos contextos industrial, académico e artístico, o investigador estabelece relações entre eles e reflete sobre as conexões entre as práticas de investigação e artística. Desta forma, o uso e a pertinência do ArtGraf N°1 são abordados no processo de experimentação do investigador, bem como no desenvolvimento da sua prática artística. A abordagem desta investigação foi feita através de um processo metodológico construído pelo pesquisador intitulado DwA: *Draw with (out) Authority*.

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**Preliminary note:** Together with the DwA dissertation, inside the DwA drawing folder, are drawings and graphite silkscreens made by the researcher in the research process and during the time he was writing this dissertation. These drawings and silkscreens function as starting points from where the writing and the research paths emerged. Thereby, they are present in the DwA drawing folder as visual material that must be considered while reading the dissertation, since they often appear referenced in the text as footnotes and, also, because they offer the reader the opportunity to have direct contact with the experiments made by the researcher. In addition to these visual materials, ArtGraf N°1, the drawing material that was central to this study, is also provided in order for the reader to experiment the drawing material and become familiar with its use. This is done with the intent of creating readers an awareness of the practical character of this study by including them in it, that is, by also giving a practical character their reading and engagement with this study. The reader is here invited to participate and continue a work, which is presented in the last *drawing scenario* of the DwA dissertation, entitled *drawing propositions*. Once this work is completed by ten readers/drawers of the dissertation it will be included in the last stage of this dissertation, as a *drawing conclusion*, under the DS: *drawing propositions (draw your own conclusions)*, turning it into a collaborative work.

# LIST OF ABBREVIATIONS

**DwA** – Draw with(out) Authority

**DA** – Draw Along

**DF** – Draw From DwA

**DI** – Draw In

**DO** – Draw Out

**DS** – Drawing scenario

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Figure 3.125 D053. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, White.

Figure 3.126 D054. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, Soft White.

Figure 3.127 D055. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, Cream.

Figure 3.128 D056. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, Soft White.

Figure 3.129 D057. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, Cream.

Figure 3.130 D058. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) HP, High White.

Figure 3.131 D059. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) CP, High White.

Figure 3.132 D060. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) Rough, High White.

Figure 3.133 D061. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) HP, High White.

Figure 3.134 D062. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) CP, High White.

Figure 3.135 D063. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) Rough, High White.

Figure 3.136 D064. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) HP, High White.

Figure 3.137 D065. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) CP, High White.

Figure 3.138 D066. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) Rough, High White.

Figure 3.139 D067. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) HP, High White.

Figure 3.140 D068. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) CP, High White.

Figure 3.141 D069. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) Rough, High White.

Figure 3.142 D070. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) HP, High White.

Figure 3.143 D071. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) CP, High White.

Figure 3.144 D072. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) Rough, High White.

Figure 3.145 W001. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) HP, White.

Figure 3.146 W002. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) CP, White.

Figure 3.147 W003. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) Rough, White.

Figure 3.148 W004. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) HP, White.

Figure 3.149 W005. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) CP, White.

Figure 3.150 W006. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) Rough, White.

Figure 3.151 W007. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) HP, White.

Figure 3.152 W008. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) CP, White.

Figure 3.153 W009. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) Rough, White.

Figure 3.154 W010. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) HP, White.

Figure 3.155 W011. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) CP, White.

Figure 3.156 W012. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) Rough, White.

Figure 3.157 W013. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) HP, White.

Figure 3.158 W014. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) CP, White.

Figure 3.159 W015. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) Rough, White.

Figure 3.160 W016. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 190g/m2 (90lb) CP, White.

Figure 3.161 W017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) HP, White.

Figure 3.162 W018. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, White.

Figure 3.163 W019. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) Rough, White.

Figure 3.164 W020. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 425g/m2 (200lb) CP, White.

Figure 3.165 W021. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 425g/m2 (200lb) Rough, White.

Figure 3.166 W022. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 535g/m2 (250lb) CP, White.

Figure 3.167 W023. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Cream.

Figure 3.168 W024. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Grey.

Figure 3.169 W025. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Eggshell.

Figure 3.170 W026. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Oatmeal.

Figure 3.171 W027. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, Radiant White.

Figure 3.172 W028. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 175g/m2 Book, Radiant White.

Figure 3.173 W029. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, White.

Figure 3.174 W030. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 175g/m2 Book, White.

Figure 3.175 W031. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, Soft White.

Figure 3.176 W032. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 175g/m2 Book, Soft White.

Figure 3.177 W033. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 500g/m2 Satin, Radiant White.

Figure 3.178 W034. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Satin, White.

Figure 3.179 W035. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Satin, White.

Figure 3.180 W036. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Satin, Soft White.

Figure 3.181 W037. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Radiant White.

Figure 3.182 W038. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Radiant White.

Figure 3.183 W039. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, White.

Figure 3.184 W040. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 330g/m2 Velvet, Radiant White.

Figure 3.185 W041. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Velvet, White.

Figure 3.186 W042. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Soft White.

Figure 3.187 W043. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Velvet, Soft White.

Figure 3.188 W044. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Buff.

Figure 3.189 W045. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Antique.

Figure 3.190 W046. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Buff.

Figure 3.191 W047. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Antique.

Figure 3.192 W048. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Newsprint Grey.

Figure 3.193 W049. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Newsprint Grey.

Figure 3.194 W050. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Black.

Figure 3.195 W051. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 500g/m2 Textured, Radiant White.

Figure 3.196 W052. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, White.

Figure 3.197 W053. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, White.

Figure 3.198 W054. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, Soft White.

Figure 3.199 W055. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, Cream.

Figure 3.200 W056. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, Soft White.

Figure 3.201 W057. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, Cream.

Figure 3.202 W058. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) HP, High White.

Figure 3.203 W059. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) CP, High White.

Figure 3.204 W060. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) Rough, High White.

Figure 3.205 W061. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) HP, High White.

Figure 3.206 W062. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) CP, High White.

Figure 3.207 W063. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) Rough, High White.

Figure 3.208 W064. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) HP, High White.

Figure 3.209 W065. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) CP, High White.

Figure 3.210 W066. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) Rough, High White.

Figure 3.211 W067. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) HP, High White.

Figure 3.212 W068. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) CP, High White.

Figure 3.213 W069. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) Rough, High White.

Figure 3.214 W070. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) HP, High White.

Figure 3.215 W071. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) CP, High White.

Figure 3.216 W072. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) Rough, High White.

Figure 3.217 A001. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) HP, White.

Figure 3.218 A002. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) CP, White.

Figure 3.219 A003. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) Rough, White.

Figure 3.220 A004. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) HP, White.

Figure 3.221 A005. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) CP, White.

Figure 3.222 A006. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) Rough, White.

Figure 3.223 A007. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) HP, White.

Figure 3.224 A008. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) CP, White.

Figure 3.225 A009. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) Rough, White.

Figure 3.226 A010. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) HP, White.

Figure 3.227 A011. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) CP, White.

Figure 3.228 A012. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) Rough, White.

Figure 3.229 A013. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) HP, White.

Figure 3.230 A014. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) CP, White.

Figure 3.231 A015. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) Rough, White.

Figure 3.232 A016. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 190g/m2 (90lb) CP, White.

Figure 3.233 A017. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) HP, White.

Figure 3.234 A018. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, White.

Figure 3.235 A019. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) Rough, White.

Figure 3.236 A020. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 425g/m2 (200lb) CP, White.

Figure 3.237 A021. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 425g/m2 (200lb) Rough, White.

Figure 3.238 A022. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 535g/m2 (250lb) CP, White.

Figure 3.239 A023. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Cream.

Figure 3.240 A024. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Grey.

Figure 3.241 A025. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Eggshell.

Figure 3.242 A026. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Oatmeal.

Figure 3.243 A027. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, Radiant White.

Figure 3.244 A028. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 175g/m2 Book, Radiant White.

Figure 3.245 A029. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, White.

Figure 3.246 A030. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 175g/m2 Book, White.

Figure 3.247 A031. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, Soft White.

Figure 3.248 A032. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 175g/m2 Book, Soft White.

Figure 3.249 A033. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 500g/m2 Satin, Radiant White.

Figure 3.250 A034. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Satin, White.

Figure 3.251 A035. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Satin, White.

Figure 3.252 A036. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Satin, Soft White.

Figure 3.253 A037. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Radiant White.

Figure 3.254 A038. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Radiant White.

Figure 3.255 A039. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, White.

Figure 3.256 A040. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 330g/m2 Velvet, Radiant White.

Figure 3.257 A041. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Velvet, White.

Figure 3.258 A042. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Soft White.

Figure 3.259 A043. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Velvet, Soft White.

Figure 3.260 A044. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Buff.

Figure 3.261 A045. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Antique.

Figure 3.262 A046. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Buff.

Figure 3.263 A047. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Antique.

Figure 3.264 A048. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Newsprint Grey.

Figure 3.265 A049. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Newsprint Grey.

Figure 3.266 A050. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Black.

Figure 3.267 A051. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 500g/m2 Textured, Radiant White.

Figure 3.268 A052. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, White.

Figure 3.269 A053. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, White.

Figure 3.270 A054. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, Soft White.

Figure 3.271 A055. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, Cream.

Figure 3.272 A056. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, Soft White.

Figure 3.273 A057. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, Cream.

Figure 3.274 A058. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) HP, High White.

Figure 3.275 A059. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) CP, High White.

Figure 3.276 A060. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) Rough, High White.

Figure 3.277 A061. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) HP, High White.

Figure 3.278 A062. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) CP, High White.

Figure 3.279 A063. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) Rough, High White.

Figure 3.280 A064. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) HP, High White.

Figure 3.281 A065. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) CP, High White.

Figure 3.282 A066. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) Rough, High White.

Figure 3.283 A067. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) HP, High White.

Figure 3.284 A068. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) CP, High White.

Figure 3.285 A069. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) Rough, High White.

Figure 3.286 A070. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) HP, High White.

Figure 3.287 A071. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) CP, High White.

Figure 3.288 A072. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) Rough, High White.

Figure 3.289 M001. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) HP, White.

Figure 3.290 M002. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) CP, White.

Figure 3.291 M003. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) Rough, White.

Figure 3.292 M004. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) HP, White.

Figure 3.293 M005. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) CP, White.

Figure 3.294 M006. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) Rough, White.

Figure 3.295 M007. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) HP, White.

Figure 3.296 M008. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) CP, White.

Figure 3.297 M009. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) Rough, White.

Figure 3.298 M010. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) HP, White.

Figure 3.299 M011. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) CP, White.

Figure 3.300 M012. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) Rough, White.

Figure 3.301 M013. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) HP, White.

Figure 3.302 M014. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) CP, White.

Figure 3.303 M015. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) Rough, White.

Figure 3.304 M016. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 190g/m2 (90lb) CP, White.

Figure 3.305 M017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) HP, White.

Figure 3.306 M018. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, White.

Figure 3.307 M019. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) Rough, White.

Figure 3.308 M020. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 425g/m2 (200lb) CP, White.

Figure 3.309 M021. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 425g/m2 (200lb) Rough, White.

Figure 3.310 M022. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 535g/m2 (250lb) CP, White.

Figure 3.311 M023. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Cream.

Figure 3.312 M024. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Grey.

Figure 3.313 M025. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Eggshell.

Figure 3.314 M026. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Oatmeal.

Figure 3.315 M027. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, Radiant White.

Figure 3.316 M028. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 175g/m2 Book, Radiant White.

Figure 3.317 M029. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, White.

Figure 3.318 M030. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 175g/m2 Book, White.

Figure 3.319 M031. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, Soft White.

Figure 3.320 M032. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 175g/m2 Book, Soft White.

Figure 3.321 M033. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 500g/m2 Satin, Radiant White.

Figure 3.322 M034. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Satin, White.

Figure 3.323 M035. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Satin, White.

Figure 3.324 M036. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Satin, Soft White.

Figure 3.325 M037. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Radiant White.

Figure 3.326 M038. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Radiant White.

Figure 3.327 M039. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, White.

Figure 3.328 M040. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 330g/m2 Velvet, Radiant White.

Figure 3.329 M041. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Velvet, White.

Figure 3.330 M042. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Soft White.

Figure 3.331 M043. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Velvet, Soft White.

Figure 3.332 M044. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Buff.

Figure 3.333 M045. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Antique.

Figure 3.334 M046. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Buff.

Figure 3.335 M047. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Antique.

Figure 3.336 M048. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Newsprint Grey.

Figure 3.337 M049. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Newsprint Grey.

Figure 3.338 M050. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Black.

Figure 3.339 M051. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 500g/m2 Textured, Radiant White.

Figure 3.340 M052. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, White.

Figure 3.341 M053. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, White.

Figure 3.342 M054. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, Soft White.

Figure 3.343 M055. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, Cream.

Figure 3.344 M056. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, Soft White.

Figure 3.345 M057. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, Cream.

Figure 3.346 M058. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) HP, High White.

Figure 3.347 M059. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) CP, High White.

Figure 3.348 M060. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) Rough, High White.

Figure 3.349 M061. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) HP, High White.

Figure 3.350 M062. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) CP, High White.

Figure 3.351 M063. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) Rough, High White.

Figure 3.352 M064. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) HP, High White.

Figure 3.353 M065. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) CP, High White.

Figure 3.354 M066. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) Rough, High White.

Figure 3.355 M067. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) HP, High White.

Figure 3.356 M068. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) CP, High White.

Figure 3.357 M069. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) Rough, High White.

Figure 3.358 M070. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) HP, High White.

Figure 3.359 M071. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) CP, High White.

Figure 3.360 M072. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) Rough, High White.

Figure 3.361 E001. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) HP, White.

Figure 3.362 E002. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) CP, White.

Figure 3.363 E003. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) Rough, White.

Figure 3.364 E004. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) HP, White.

Figure 3.365 E005. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) CP, White.

Figure 3.366 E006. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) Rough, White.

Figure 3.367 E007. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) HP, White.

Figure 3.368 E008. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) CP, White.

Figure 3.369 E009. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) Rough, White.

Figure 3.370 E010. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) HP, White.

Figure 3.371 E011. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) CP, White.

Figure 3.372 E012. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) Rough, White.

Figure 3.373 E013. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) HP, White.

Figure 3.374 E014. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) CP, White.

Figure 3.375 E015. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) Rough, White.

Figure 3.376 E016. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 190g/m2 (90lb) CP, White.

Figure 3.377 E017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) HP, White.

Figure 3.378 E018. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, White.

Figure 3.379 E019. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) Rough, White.

Figure 3.380 E020. ArtGraf Nº1 on paper: St. Cuthberts Mill; Bockingford, 425g/m2 (200lb) CP, White.

Figure 3.381 E021. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 425g/m2 (200lb) Rough, White.

Figure 3.382 E022. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 535g/m2 (250lb) CP, White.

Figure 3.383 E023. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Cream.

Figure 3.384 E024. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Grey.

Figure 3.385 E025. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Eggshell.

Figure 3.386 E026. ArtGraf N°1 on paper: St. Cuthberts Mill; Bockingford, 300g/m2 (140lb) CP, Oatmeal.

Figure 3.387 E027. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, Radiant White.

Figure 3.388 E028. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 175g/m2 Book, Radiant White.

Figure 3.389 E029. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, White.

Figure 3.390 E030. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 175g/m2 Book, White.

Figure 3.391 E031. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, Soft White.

Figure 3.392 E032. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 175g/m2 Book, Soft White.

Figure 3.393 E033. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 500g/m2 Satin, Radiant White.

Figure 3.394 E034. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Satin, White.

Figure 3.395 E035. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Satin, White.

Figure 3.396 E036. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Satin, Soft White.

Figure 3.397 E037. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Radiant White.

Figure 3.398 E038. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Radiant White.

Figure 3.399 E039. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, White.

Figure 3.400 E040. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 330g/m2 Velvet, Radiant White.

Figure 3.401 E041. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Velvet, White.

Figure 3.402 E042. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Soft White.

Figure 3.403 E043. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Velvet, Soft White.

Figure 3.404 E044. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Buff.

Figure 3.405 E045. ArtGraf N°1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Antique.

Figure 3.406 E046. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Buff.

Figure 3.407 E047. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Antique.

Figure 3.408 E048. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, Newsprint Grey.

Figure 3.409 E049. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Newsprint Grey.

Figure 3.410 E050. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Black.

Figure 3.411 E051. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 500g/m2 Textured, Radiant White.

Figure 3.412 E052. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, White.

Figure 3.413 E053. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, White.

Figure 3.414 E054. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, Soft White.

Figure 3.415 E055. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, Cream.

Figure 3.416 E056. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, Soft White.

Figure 3.417 E057. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Textured, Cream.

Figure 3.418 E058. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) HP, High White.

Figure 3.419 E059. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) CP, High White.

Figure 3.420 E060. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) Rough, High White.

Figure 3.421 E061. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) HP, High White.

Figure 3.422 E062. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) CP, High White.

Figure 3.423 E063. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) Rough, High White.

Figure 3.424 E064. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) HP, High White.

Figure 3.425 E065. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) CP, High White.

Figure 3.426 E066. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) Rough, High White.

Figure 3.427 E067. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) HP, High White.

Figure 3.428 E068. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) CP, High White.

Figure 3.429 E069. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) Rough, High White.

Figure 3.430 E070. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) HP, High White.

Figure 3.431 E071. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) CP, High White.

Figure 3.432 E072. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) Rough, High White.

Figure 3.433 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.434 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.435 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.436 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.437 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.438 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.439 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.440 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.441 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.442 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.443 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.444 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.445 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.446 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.447 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.448 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.449 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.450 Drawing Propositions (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.451 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.452 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.453 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.454 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.455 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.456 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.457 Chiaroscuro Modelling #1 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, White, 125mm x 125mm.

Figure 3.458 Chiaroscuro Modelling #2 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) HP, White, 125mm x 125mm.

Figure 3.459 Chiaroscuro Modelling #3 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Satin, White, 125mm x 125mm.

Figure 3.460 Chiaroscuro Modelling #4 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, White, 125mm x 125mm.

Figure 3.461 Chiaroscuro Modelling #5 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Textured, White, 125mm x 125mm.

Figure 3.462 Chiaroscuro Modelling #6 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) Rough, White, 125mm x 125mm.

Figure 3.463 Chiaroscuro Modelling #7 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) CP, White, 125mm x 125mm.

Figure 3.464 Chiaroscuro Modelling #8 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 115g/m2 Book, White, 125mm x 125mm.

Figure 3.465 Chiaroscuro Modelling #9 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 175g/m2 Book, White, 125mm x 125mm.

Figure 3.466 Chiaroscuro Modelling #10 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 190g/m2 (90lb) CP, High White, 125mm x 125mm.

Figure 3.467 Chiaroscuro Modelling #11 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 250g/m2 Velvet, White, 125mm x 125mm.

Figure 3.468 Chiaroscuro Modelling #12 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 300g/m2 Satin, White, 125mm x 125mm.

Figure 3.469 Chiaroscuro Modelling #13 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 330g/m2 Velvet, Radiant White, 125mm x 125mm.

Figure 3.470 Chiaroscuro Modelling #14 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) HP, High White, 125mm x 125mm.

Figure 3.471 Chiaroscuro Modelling #15 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 425g/m2 (200lb) HP, High White, 125mm x 125mm.

Figure 3.472 Chiaroscuro Modelling #16 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 500g/m2 Satin, Radiant White, 125mm x 125mm.

Figure 3.473 Chiaroscuro Modelling #17 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) HP, High White, 125mm x 125mm.

Figure 3.474 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.475 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.476 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.477 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.478 Ricardo Pistola. *Drawing Propositions* (Detail), 2015-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 210mm x 148mm.

Figure 3.479 Attach #4 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) HP, High White, 125mm x 125mm.

Figure 3.480 Attach #5 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) CP, High White, 125mm x 125mm.

Figure 3.481 Attach #6 (Detail). ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) Rough, High White, 125mm x 125mm.

Figure 3.482 Drag, attach and pull #1. ArtGraf putty (Yellow) on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) HP, High White, 125mm x 125mm.

Figure 3.483 Drag, attach and pull #2. ArtGraf putty (Red) on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) HP, High White, 125mm x 125mm.

Figure 3.484 Drag, attach and pull #1. ArtGraf putty (Blue) on paper: St. Cuthberts Mill; Saunders Waterford, 638g/m2 (300lb) HP, High White, 125mm x 125mm.

Figure 3.485 Graphite silkscreen test #1. ArtGraf graphite powder mix with water, fluid medium and paste medium printed on paper: St. Cuthberts Mill; Somerset, 300g/m2 Velvet, High White, 297mm x 210mm.

Figure 3.486 Graphite silkscreen test #2. ArtGraf graphite powder mix with water and paste medium printed on paper: St. Cuthberts Mill; Somerset, 300g/m2 Velvet, High White, 297mm x 210mm.

Figure 3.487 Graphite silkscreen test #3. ArtGraf graphite powder mix with water and paste medium printed on paper: St. Cuthberts Mill; Somerset, 300g/m2 Velvet, High White, 297mm x 210mm.

Figure 3.488 Graphite silkscreen test #4. ArtGraf graphite powder mixed with water printed on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Newsprint Grey; 2 sheets 148mm x 210mm each.

## STAGE 4: DO

Figure 4.1 Ricardo Pistola. *Vertigo* (Detail), 2017. Graphite Silscreen on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Newsprint Grey; 1050 mm x 2376 mm.

Figure 4.2 Collaborative drawing. *Square into a circle*, 2015. ArtGraf Nº1 on paper, 1000mm x 700mm.

Figure 4.3(a, b, c, d, e) Ricardo Pistola. *Drawing Propositions*, 2105-2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, Variable dimensions: 40 sheets 210mm x 148mm each.

## STAGE 5: DC

Figure 5.1 Ricardo Pistola.  Image from the performance at ECER2016.

Figure 5.2 Ricardo Pistola.  Image from the performance at ECER2016.

Figure 5.3 Ricardo Pistola. *Come and Go #1*, 2016. Drawing made in a performance at ECER2016. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 356g/m2 (260lb) HP, High White, 560mm x 766mm.

Figure 5.4 Ricardo Pistola. *Untitled DC#1*, 2016. ArtGraf Nº1 on paper: St. Cuthberts Mill series Saunders Waterford, High White; 15 sheets: 127mm x 127mm each.

Figure 5.5(a, b, c, d, e, f) Ricardo Pistola. *Untitled DC#2*, 2017. ArtGraf Nº1 on paper: St. Cuthberts Mill series Saunders Waterford, Bockingford and Somerset; 72 sheets: 127mm x 127mm each.

Figure 5.6 Ricardo Pistola. *Drawing Propositions (draw your own conclusions)*, 2017. Graphite Slikscreen on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 148mm x 210mm.

Figure 5.7 Ricardo Pistola. *PrimATA*, 2017. ArtGraf Nº1 on paper: St. Cuthberts Mill: Bockingford, 300g/m2 (140lb), Oatmeal; Somerset, 115g/m2 Book, White: 500mm x 750mm.

Figure 5.8 Ricardo Pistola. *Screen*, 2017. Graphite silkscreen printed on paper: St. Cuthberts Mill; Somerset, 250g/m2 Satin, White; 297mm x 1050mm.

Figure 5.9 Ricardo Pistola. *Composition #1*, 2015. ArtGraf Nº1 on paper: Saunders Waterford, 356g/m2 (260lb) HP, High White, 350mm x 1050mm.

Figure 5.10 Ricardo Pistola. *Untiltled*, 2016. Acrylic and ArtGraf Nº1 on canvas, 640mm x 710mm.

Figure 5.11 Ricardo Pistola. *Untitled*, 2016. Acrylic and ArtGraf Nº1 on canvas, 240mm x 500mm.

Figure 5.12 Ricardo Pistola. *GEO*, 2017. ArtGraf Nº1 on wall, 2500mm x 280mm.

Figure 5.13 Ricardo Pistola. Instalation view Centro Artes Sines, 2017.

Figure 5.14 Ricardo Pistola. *Iteration #1*, 2017. Graphite silkscreen printed on paper: St. Cuthberts Mill; Somerset, 300g/m2 Velvet, White; 1782mm x 2730mm.

Figure 5.15 Ricardo Pistola. *Come and Go #2*, 2017. Tire rubber and paper, variable dimensions.

## ANNEX

Annex 1 Ricardo Pistola. *Wittgenstein §216*, 2017. Graphite Silkscreen printed on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Newsprint Grey; 148mm x 210mm.

Annex 2 Ricardo Pistola. *Focus #1*, 2017. Graphite Silkscreen printed on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Buff; 127mm x 127mm.

Annex 3 Ricardo Pistola. *DwA diagram I*, 2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Newsprint Grey; 148mm x 210mm.

Annex 4 Ricardo Pistola. *DwA diagram II*, 2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Newsprint Grey; 148mm x 210mm.

Annex 5 Ricardo Pistola. *DwA diagram III*, 2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Newsprint Grey; 148mm x 210mm.

Annex 6 Ricardo Pistola. *Hume cited by Deleuze*, 2017. Graphite Silkscreen printed on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Cream; 148mm x 210mm.

Annex 7 Ricardo Pistola. *Drawing Patterns*, 2017. Graphite Silkscreen printed on paper: St. Cuthberts Mill; Somerset, 280g/m2 Velvet, Cream; 148mm x 210mm.

Annex 8 Ricardo Pistola. *Untitled DC #1*, 2017. ArtGraf Nº1 on paper: St. Cuthberts Mill; Saunders Waterford, 300g/m2 (140lb) HP, High White.

Annex 9 Ricardo Pistola. *DP (draw your own conclusions)*, 2017. Graphite Slikscreen printed on paper: St. Cuthberts Mill; Millford, 300g/m2 CP(NOT), White, 148mm x 210mm.

# STAGE 0: INTRODUCTION

## Overview

This research arises from three autonomous yet, simultaneously, concurrent domains in the researcher's professional practice: 1. Visual arts teaching practice and pedagogy; 2. Artistic practice; and, 3. Research conducted within the field of artistic education and in the drawing material's development field at Viarco pencil factory.

Through these distinct sets of practices, questions about the understanding and of the processes inherent to the drawing practice and their underlying conceptions assume a key role in the research focus. Hence the intention to understand the knowledge relations established in the art studio context and how these relate to the development, functions and properties of drawing materials through its experimentation.

The character of this study is defined through the relations established between the industrial and the academic contexts in which this research was held. The main common denominator is the practice of drawing, in which the experimentation processes of the materials that were developed at Viarco acquire a central role. Notwithstanding, the configuration of this context reveals tensions that are rooted in the social practice. Developing this study simultaneously in the industrial and the academic contexts brings into the research the dimension of agreement, as the basis for the cross section and relationship between work and life experiences within a society. The tensions brought about by the demands of these two contexts, which are sometimes opposite and other times coincident, created the space for the researcher's autonomy.

While developing this study through the interpersonal relationships established in each of these contexts, the researcher finds his space of action by reaching an agreement based on established research guidelines. Moreover, the space of autonomy that the researcher creates for himself goes beyond these guidelines as he goes on to integrate his own biographic-experiential dimension in his overall research processes and objectives. Therefore, this research is partly informed by past events and experiences, through a form of inquiry that is embedded in the educational relation, the artistic and the research practices previously developed by the researcher, while deals with present events, incorporating both past and present in this study by transforming one input into another.

This research project involves the articulation of a process that is here called *DwA: Draw with(out) Authority*, which has its origins in: 1. The artistic practice that emerges from and within the

educational field and 2. The research process, the experimentation and the development of drawing materials.

DwA as a process defines this study's approach to the educational, the artistic and the materials' development fields. Through the intermittence that is implied in the processes that is here distinguished as being *with* or *without authority*, DwA expresses those different degrees by which the researcher's autonomy appears in how this study is conducted and, simultaneously, bounds the scope of the study with each one of these fields.

The relationships established between producers and users characterize the strategy for the development of materials at Viarco. The openness that was always forthcoming from the producers toward a continuous dialogue with users of this product, not only enabled the creation of new materials, but also brought an educational dimension to the drawing materials' development field where the circulation and exchange of knowledge between individuals acquired a central role.

The interpersonal relationships established in this context are of major importance for the understanding of co-operation as a fundamental condition for work, development, and production. Accordingly, learning is here perceived as an encounter between individuals that promotes the development of knowledge through experience and dialogue. Therefore, the approach to the educational field in this study focuses on the relationships established between the materials producers, the participants and the researcher, who brings the drawing materials (that is, *ArtGraf* N°1, which is a graphite putty that became the central focus of this study) into the school context by carrying out drawing workshops in art schools.

## Parameters of this study

From the start, it is important to clarify the parameters within which this study has been conducted, and how specific aims were established. This also implies the limitations of the study, as stipulated by clear methodological criteria as set from the onset of this process of inquiry.

In the drawing workshops that take place within the scope of this study, there is no intention to analyse the pedagogical relations established in these contexts nor the participants' learning process, since their short duration in time would compromise the depth and accuracy of the results of such

an analysis. Consequently, the approach to the workshops carried out is centred on the researcher's observation of the participants' drawing practice, through which the researcher acquires knowledge that he then transposes into the development of this study in the drawing materials development field.

Learning, in the scope of this research, refers to the researcher's experience while carrying out this study and is perceived as events of transformation of his professional practice that occur through his interaction and the dialogue established with the participants. Thereby, the researcher's artistic practice becomes inseparable from these processes of learning and integrates his findings.

However, the researcher's artistic practice goes beyond the scope of this study and is, therefore, presented in this dissertation in two moments: one in which the art works are subjected to decomposition processes that allow studying the properties of ArtGraf N°1 and another in which the researcher's art works are presented as the development of his artistic practice, which integrates the research practice as a component of its development and can be understood as the result of his experience as a researcher, an artist and, also, as an individual living in society.

The connections between the industrial and the educational contexts are here established through the dimensions of production, possibility, availability and autonomy. The field of action, that is, the drawing practice, constitutes a fundamental component in the research's methodological syntheses, which is presented by the DwA process. *Draw* is perceived as a transversal action in the four dimensions mentioned above and the significance of *authority* is construed through the contingencies found in development of this study, which narrow the research field and influence the action of drawing. The movements throughout the four dimensions are organized by the notion of *authority*, perceived as a polysemic term and recognized in the drawing and research practices. Consequently, the research field is inscribed in four circumstantial and complementary stages – *Draw from DwA* (DwA – DF), *Draw Along* (DA), *Draw In* (DI) and *Draw Out* (DO) –, which deal with tensions between the notions of to draw (as a verb) and authority (as a noun).

These stages constitute the chapters of the DwA dissertation and in each of them the drawing practice is approached through a distinct notion of *authority* and its intermittent presence. In each research stage is presented as well a *drawing scenario* (DS), which addresses the researcher's drawing practice that emerged from and throughout the research development.

**STAGE 1: DwA – DF**

This stage concerns the construction of the DwA process, identifying the research field and setting the methodological approach for this study. Thus, DwA is here presented as a methodological instrument and DF: *drawing from DwA* is, simultaneously, a stage and a *drawing scenario* (DS), in which the researcher maps the research by drawing his paths across the stages that compose this study. Writing and drawing become here inseparable, since the researcher uses the language of drawing in the construction of diagrams[1] by which he develops his thought and writes about his approach to the research field. In this stage, *authority* is perceived as a *rule* that organizes the practices with the purpose of making them intelligible and ready for dissemination. Therefore, this first stage refers to the mapping of the research and to the methodology used to develop this study.

**STAGE 2: DA**

*Draw Along* (DA) relates to the educational environment found in the context of this study. As already mentioned, the approach to the educational field focuses on the interpersonal relationships that occurred during development of this study and their influence on the research paths. DA is constructed upon a shared practice, which is the drawing practice, and contemplates the drawing workshops carried out in art schools, the feedback from artists and drawing teachers on the use of ArtGraf N°1 and the work developed with the materials producers. In this stage the notion of *authority* is perceived in two instances: first, corresponding the interpersonal relationships established between the researcher and the individuals involved in this study and, second, as patterns[2] found in the participants' drawing practice. In the former it is rooted in the social representations that condition the individual's actions and in the later it functions as a *rule* that allows narrowing the scope of the study in the next stage, in order to explore the ArtGraf N°1 properties, and from which the DS: *drawing patterns* emerges.

**STAGE 3: DI**

*Draw In* (DI) is the stage in which the researcher's experimentation process takes place. In this stage, along with the researcher's findings on the ArtGraf N°1 properties, is presented a snapshot of the quantitative data collected from an evaluation grid of ArtGraf N°1 filled in by the participants.

In the previous stage (DA), the three most common drawing procedures (drag, attach and pull) are identified through the observation of the participants' drawing practice while using the ArtGraf N°1 and they play here a key role, in the experimentation of the graphite putty in a range of 72

[1] Annexes 3, 4 and 5 (DwA drawing folder).

[2] Annexes 7 and 8 (DwA drawing folder).

different papers supplied by the St. Cuthberts Mill factory, setting the basis for the DS: *experiment to grasp*. However, these three drawing procedures are deployed in six procedures, with the purpose of exploring the ArtGraf N°1 properties in more detail. In this stage *authority* is recognized as the industrial demands that shape the development of this study. In addition to the DS: *experiment to grasp*, in which these six drawing procedures are addressed, the researcher started begins a drawing series under the DS: *drawing propositions* that, simultaneously, serves to explore the ArtGraf N°1 attributes through decomposition processes, by which the *drawing propositions* are reorganized to fit the purposes of the analysis, and conducts the research into the next stage.

### STAGE 4: DO

*Draw Out* (DO) addresses the researcher's drawing practice and reveals his path outside the scope of this study, connecting it with the artistic domain. In this stage, the researcher reflects upon the relations established between the research and the artistic practices, expressing his considerations on carrying out this study while, simultaneously, developing his artistic practice. Therefore, *authority*, in this stage, appears associated to the notion of authorship and an intermittence between collaborative and individual work in the research and artistic practices is evidenced through the DwA process. Furthermore, the researcher explores the DS: *drawing propositions* as a work that acquires different meanings, depending on the context of its presentation. In this sense, it is suggested that the presence of the artistic practice in the academic context is limited by the processes inherent to that context, which constrain the artistic object into resolute readings bounded by the authority of a theory or structure. Therefore, DO appears instead as an open stage, in which the dimensions of possibility and autonomy acquire a fundamental importance both in the development of the artistic practice and in the reading of the artistic object, which requires the ability to compose and structure ideas within the field of aesthetics.

### STAGE 5: DC

*Drawing Conclusions* (DC) is the last stage of the DwA dissertation and is understood outside this study as reflections made upon the work developed. It addresses the researcher's findings in the study of the ArtGraf N°1 properties and, additionally, presents three drawing scenarios that have their origins in this research. DC, more than a conclusive stage, is the stage in which the researcher's artistic work is presented, work that, although intimately influenced by the research process, exists beyond the research boundaries. Therefore, DC does not offer theories about the art works presented in it and creates rather a space for further discussion and interpretation. In this stage, the DwA process presents *to draw* and *authority* in a field without boundaries, transforming DwA into a living process.

# STAGE 1: DwA — DF

**(Drawing Scenario: Drawing from DwA)**

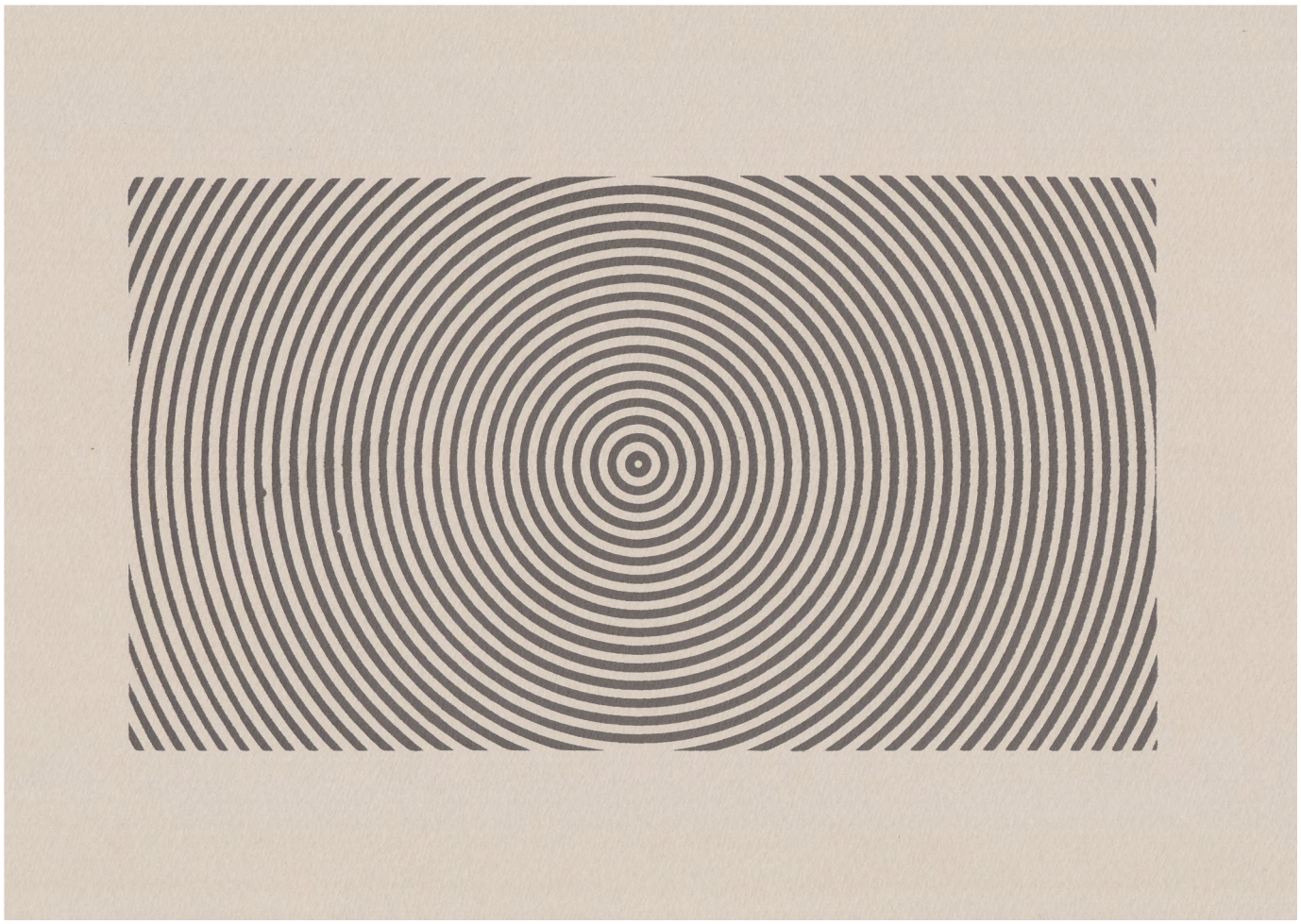


Figure 1.1 Ricardo Pistola. *Focus*, 2017.

## DwA: DRAW with(out) AUTHORITY

*DwA: Draw with(out) Authority* presents itself in this research as a stage and as a process. The movements latent in the preposition *with(out)* polarize the notions of *to draw* (as a verb) and *authority* (as a noun). *Draw* and *authority* are conceived as two tensors present in the research field and are approached as a set of practices. *Draw* is construed as an action related to production and is perceived as a form of possibility. *Authority* is recognized through the degrees of availability and autonomy found and generated in the research field.

DwA emerges from the convergence of the industrial and the educational contexts, placing this research in the dimensions of production, possibility, availability and autonomy. Researching in both contexts reveals aspects that are particular to each of them, unveiling in some degrees contrasting and coincident paths, which connect all research stages. Therefore, this research can be perceived as a study located in the gap between these two contexts, observant of the movements that occurred in the research practice. The convergence of these contexts discloses tensions, as they are made visible through the notion of *authority,* and that are rooted in the social practice and it is here that DwA has its foundation.

Researching simultaneously in industrial and educational contexts requires a transversal conception of the theoretical notions involved and of the components present in the research, allowing the understanding of the distance and the proximity of both fields. So, on a first approach, this is recognized in: (1) the drawing materials' development, which encompasses the notion of technique rooted in the drawing tradition and pursues the creation of new products through the dialogue between producers and users; (2) the educational field, that reveals itself as a key element in the ways how individuals relate to and use the materials in their drawing practice, constantly informing their action through past and present experiences; (3) the researcher's autonomy in the study of the practice of drawing in the material development context, connecting it with the educational field through the interaction with the participants and his own drawing practice.

The interaction among the participants and between them and the researcher bring both the drawing practice and the research practice into analyses as to be perceived as action research. "The aims of action research projects are to bring about practical improvement, innovation, change or development of social practice, and the practitioners better understanding of their practices."(Cohen *et al*. 2000,

227) Moreover, this is an art-based research project in which the methodological foundations are set in the creative process and in the drawing practice, implying movements between the notions of the verb *to draw* – as an act of making; and *authority* — as a form of decision making. Thus, as a research project, DwA intends to inform both the art practice (Elkins 2009) and the educational field within which the art practice happens to emerge.

Throughout the research process, *authority* assumes different roles and it can be perceived as the force of execution, of information and of the subjects' common activity. The act of making associates this research with the language of drawing by exploring aspects that are rooted in the tradition of the drawing materials and its use, connecting it with the artistic and the educational fields.

Working at the Viarco factory turned the research focus into the development of drawing materials. Viarco promotes the contact with the materials' users through the close collaboration maintained between the producers and drawing professionals and also through its studio, open to proposals from artists and other drawing professionals. The Viarco studio is a space where the interaction among subjects and their drawing practices promote the emergence of concepts related to drawing processes that may lead to the creation of new products. Notwithstanding, in this configuration, the studio also reveals itself as a place where learning occurs. DwA approaches this context by relating the industrial and the educational field by means of the personal interrelationships that lead to knowledge development in the artistic, the educational and in the material development fields. Thus, the educational field is approached through the researcherŴs experience working together with the participants.

DwA allows us to separate the problematic of industrial research — which strives for specific outcomes in order to obtain productivity — from the social sciences research in the educational field that deals with subjectivity and social representations. It conceives the research regarding the dimensions of production, possibility, availability and autonomy. At this stage, DwA acts upon the research dimensions bringing *to draw* into focus, while *authority* defines the action field. This research participates in the founding of a space of autonomy in the industrial and in the educational contexts from where subjectivity arises. Indeed, the researcher's autonomy takes place in the space found between the industrial demands and the possibilities opened through the relationships established with the participants during the research. To act in this space results from the recognition of the *authority* present in the research context perceived through external and internal hindrances. DwA identifies the latter: as a need of an explicit process or research method (*Draw From*); as a

group of people joined by a common activity (*Draw Along*); as patterns that allow the replication of experiments (*Draw In*); and over the notion of authorship, revealing the researcher's options and the connections established between the research and his own artistic practice (*Draw Out*).

The constant movement through these two contexts sets the foundation of the DwA process. On one hand, *authority* relates to the research objectives determined by its industrial context and, on the other hand, it assumes a polysemic character, acting as a set of lenses that allow various approaches to the action of drawing throughout the research stages leading to the educational field. The intermittent notion of *with* or *without authority* connects the DwA process to the components found in the research fields that bound it. Hereby, the DwA process has its basis in three main approaches to the notion of *authority*:

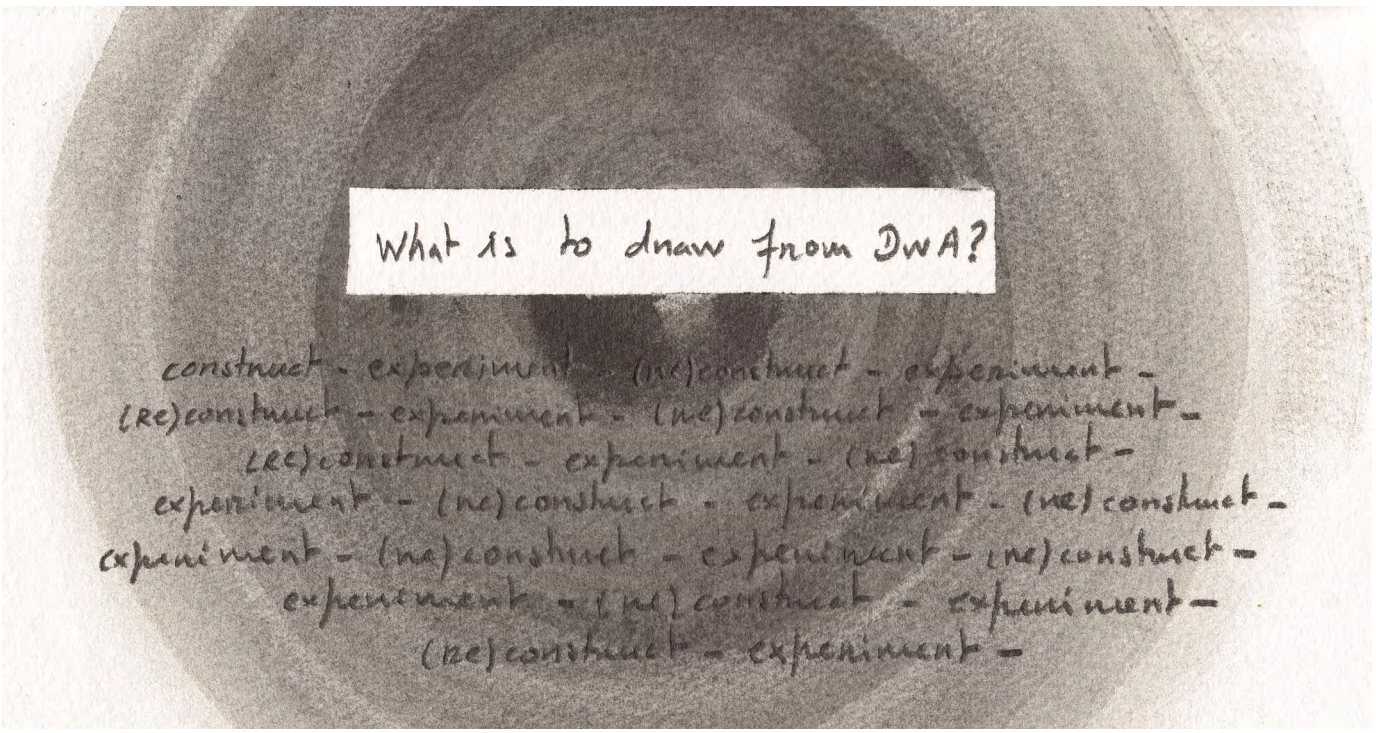



Figure 1.2 Ricardo Pistola. *What is to draw from DwA?*, 2017.

1. *Authority* as shape: the shape of a drawing tool conditions its use. DwA acts upon the notion of boundaries created between shape and possibility. One of the concerns in the development of new products at Viarco is related with the productŴs shape, its appearance and presentation regulate the ways in which it can be used. The categorization of drawing materials is intrinsically connected

with their tradition and that of the drawing practices, in such a way that they are associated with techniques and to the notion of mastery. Therefore, the recognition of a drawing tool is largely made through ideas rooted in the ways how it can be used. This process relates to the drawing tradition and deals with concepts developed within a schooled society, where the purpose of a tool is defined and made clear by taking its use as a subject that can be taught.

2. *Authority* as social practice: the domain of interaction relates to human action. Subjects mostly act through social representations of what they think their action must be. The researcher's role can be understood through conceptions similar to those of the role of a teacher/artist/learner. Frequently, in the workshops that were carried out, the participants were expecting to learn specific techniques or ways of doing, expecting that the researcher would provide this information. The idea of the teacher or the artist as an *authority* on expert knowledge acts upon the experience, constraining the individual work and outcomes that are then built through notions of what would be accepted by others in that context. Communication is a central point if we intend to refuse this model of interaction. In this sense, the positioning of the researcher requires not giving specific information about the use of the drawing material provided. *Authority* is seen as an agreement among all subjects, including the researcher, along the research activity. However, when subjects act together in a common activity they resort to their individual patterns of action, which allow a coordinated response. Therefore, communication cannot be reduced to a simplistic transference of information from one subject to another, but is rather the creation of a common inter-subjective world.

These inter-subjective possibilities are construed through the subjects' communication and bring the researcher's activity into a constant movement, since the patterns of action developed in one situation cannot be repeated in another. Being prescriptive, and alienating the participants' action, would otherwise compromise the activity's outcomes. Therefore, the facilitation of the drawing workshops demands from the researcher a reflective and questioning attitude towards his performance.

John Dewey (1988) states that the domain of knowledge and the domain of human action are intimately connected. These two domains do not have a separate existence: knowledge arises from action and feeds back into action. This assumption brings the process of knowing into the possibility of an experience. This process of knowing is perceived as an action that involves a conscious experience. Thus, reflection takes a fundamental role in the knowledge acquired through action. Reflection is considered as a process of self-generation of knowledge that conceives experience as knowable. Although experience can also escape from the objectivity of knowing and be perceived

as unknowable, acting then as a force that enables the creative activity to transform one input into another and allowing improbable connections between events. And, for each subject, all actions are informed by knowledge acquired in past experiences. The relation between experience and knowledge is rooted in the notion that "experience occurs continuously, because the interaction of live creature and environing conditions is involved in the very process of living." (Dewey 1980, 35) Thus, knowledge operates within the discovery of the conditions and consequences of action. The notion of *authority* is approached as decision-making, not only by the researcher but also by all the participants, the art students and the drawing teachers. In this sense, *authority* acts upon the drawing experience through social and cultural conceptions. This conceptualization of *authority* against experience, when related to the practice of drawing in an educational context, pertains to the academic drawing tradition, which is implied in the use of tools – associated to techniques, where the notion of mastery assumes a key role in the teaching of drawing and, consequently, in the student's action.

3. *Authority* as autonomy: *Authority* is strongly connected with the idea of autonomy, since the participants interact with each other and exert forces through their actions. The interpersonal relationships that occur during the research activity are fundamental in its outcomes. *Authority* and autonomy are interrelated, and inform each other through power-relations present in the shared activity. In this sense, the role of the researcher and the participants are built upon the notion of subjects' interaction. Their positioning and actions condition the individual and the collective activity. "As a society we always try to understand each other and work within rules upon which we agree, we also know that the permutations of our will and actions remain, to a degree, immediate." (Baldacchino 2014, 100) The perception of this connection between immediacy and mediation is made through a space of autonomy that we create for ourselves. Therefore, this research process is fed by the past — the researchers' experience and knowledge developed through his academic and artistic background and his previous teaching practice — and deals with the present inside the research, where one input is transformed into another. Autonomy is understood as an *aporia* once the research's action is placed within an educational and industrial context. This is also implied in the repetition and replication of drawing procedures in order to compare the outcomes. This space of autonomy is rooted in the idea that we 'cannot live without some sort of co-operation with others in order "to be able to work and produce." (Fromm 2001, 16)

DwA acts upon the research field, taking *draw* through four other stages: *Draw From DwA* (DF), *Draw Along* (DA), *Draw In* (DI) and *Draw Out* (DO). *Draw* and *authority* are both approached as a

set of practices. *Draw* is understood as a circumstantial action that occurs in analogous and distinct stages. *Draw* is construed as an action related to the interaction between subject and material, and is perceived as a form of exertion by pulling, dragging or extracting. *Draw* is characterized by interdisciplinarity and is an experimental medium, whereby visual ideas are expressed through the generation of traces that evidence a past event or something that has been present. *Authority* is approached as a practice related with decision-making. It is construed as a power relation when present in stages of interaction. It concerns the recognition of the contingencies present in the research field from which it arises, as well as all the relevant methodological options taken during the research, thus unveiling its paths. DwA is made up of stages (DF, DA, DI, DO) and is itself a stage in communication with others, implying a constant movement between the notions of *draw* and *authority* that evidences tensions in the process.

The DwA stage consists of the construction of a process that lies in the ability to discern the other research stages, undertaking a continuous movement which does not result from a pre-established practical and theoretical support. In the perception of the pathways of this research, as it deals with the notion of *authority* as decision-making, it is essential to consider that the researcher's ontological subjective processes manifest themselves according to particular situations, where other modalities of subjectivity, such as its academic and artistic course, are latent. Consequently, subjectivity is not found in a neutral degree but in a degree of intensification, through which the circular movement is unveiled through repetition and promoted by taking the research process into analyzes. Rather than being a standardized method, DwA deals with auto-referential modalities that are simultaneously plural and singular, organizing the research through the intersection established between the research stages.

DwA determines the research field — composed by the industrial and the educative contexts — pointing out four other stages: 1. Of methodological approach to the research unveiling its procedural course, setting the DF stage, 2. Of social activation within the workshops, in the work together with the materials producers and in the contact with artists and drawing professionals, at the DA stage, 3. Of industrial knowledge and technical procedures related with the materials' development and its possible uses, constituting the DI stage, 4. Of the paths of the research practice simultaneously informing and influencing the researcher's drawing practice, setting the DO stage.

The movement between *with* or *without authority* brings up the notion of reference, revealing DwA as an instrument that can be used to research the action of drawing in different and interrelated

stages. Therefore, DwA can be perceived as a methodological process that organizes the research by bounding it and defining an itinerary throughout the four stages presented.

DwA conceives the movements between *with* or *without authority* in *draw*. On one side the motion — of the action that takes place between the dimensions of production and possibility — and on the other side the articulations that regulate the action through external and internal intensities — dealing with different degrees of *authority*, approached through the dimensions of availability and autonomy — which constitute a continuous coming-and-going in the research practice.

The production of the DwA process does not imply that the autonomy of the researcher and of the participants are condemned to being alienated by the research procedures. The dimension of possibility plays a key role by taking the unpredictable and the unknown into the research, allowing the participants to make their own choices. The researcher's approach to the generated data conceives *draw as a private affair* but takes it, nevertheless, into paths that make possible by allowing outcomes related with the drawing materials' properties, as well as the reflection on the educational transactions between the participants and the researcher.

## DRAW AS A PRIVATE AFFAIR

*Draw as a private affair* appears as a methodological interlude that point towards the research practice. It does not tap into a given, impersonal source of *authority*, but rather articulates a way of proceeding with the research that invites the reader to acknowledge it.

The general appearance of the drawing practice does not reveal the full sense of its complex action. *Draw* is conceived *as a private affair* in the sense that it is contingent to the research context. So, it reveals an independent existence in the sphere of social consciousness, functioning as something individual, produced by the researcher and his agreement with the materials producers. This process of formation points out the research objectives through a system of orientations that frame and structure the research and the drawing activities. To conceive *draw as a private affair* means to understand it in the context of the materials' development. *Draw* is structured by the notion of *authority* and revealed through the stages that combine the work with the participants, the materials producers, and the researcher's approach to the drawings produced during the research activity. Thus, *draw as a private affair* presents forms of practical assimilation and theoretical interpretations of the research activity.

The drawings produced during the research present contents that go beyond the research focus. The researcher's approach to the drawings made by the participants has the goal of acquiring information on the drawing materials' properties. *Draw* is evaluated in terms of the research goals and this disposition expresses not only a theoretical position, but also the researcher's design of a method and of the research paths. The notion of *authority* plays a key role in the conception of *draw as a private affair*. *Authority* is perceived as the research's contingencies that are inherent to its context, while it is also perceived through the notion of authorship where the dimensions of production, possibility, availability and autonomy act together, defining the action field and revealing the researcher's methodological options.

DwA acts upon the research development as a process that simultaneously bounds and feeds it. To conceive *draw as a private affair* implies bringing up the researcher's movements throughout the research, revealing the connections and the relations established between *draw* and *authority*. Their interaction is perceived as movements towards other stages. *Authority* acts upon the notion of *draw as a private affair* as a rule that points towards the research development. It is determined by the research practice and the researcher's academic and artistic background. Thus, as a rule, *authority*

assumes different configurations in each research stage. First, it is involved in the construction of the research method and on the mapping of its activity (DS: *drawing from DwA*). Second, it is perceived as patterns of use found in the participants' drawing practice using the drawing material provided (DS: *drawing patterns*). Third, it acts upon the patterns previously identified as drawing procedures and through their repetition in order to grasp the material's properties (DS: *experiment to grasp*). These procedures, elaborated by the researcher while experimenting with the material, conduct and inform his drawing practice beyond the research boundaries (DS: *drawing propositions*). Notwithstanding, the ground rules of this research were set through the shared activity of drawing, where the researcher and the participants explored ArtGraf N°1 and the language of drawing.

Since the research focus is on the study of the drawing material's properties, the lenses that the researcher uses to approach the drawings produced by the participants are rooted in the drawing procedures and the ways in which the participants used ArtGraf N°1. Nevertheless, the research itinerary attends to objectives set by the materials producers, which are also connected with the notion of *authority*, acting as a binding agent in the researcher's *draw*ing practice.

> That's why 'following a rule' is a practice. And to *think* one is following a rule is not to follow a rule. And that's why it's not possible to follow a rule 'privately'; otherwise, thinking one was following a rule would be the same thing as following it. (Wittgenstein 2009, §202)

*Draw as a private affair* relates to the dichotomy between public and private. It appears in this project as a result from the configuration of stages that were constructed during the research. *Draw* emerges from the action of the verb (to draw) and occurs through the prepositions *from, along, in* and *out,* which set up spatial and temporal stages. These stages are presented as outcomes that result from the research and drawing practice, which cannot be dissociated from each other. Therefore, the associations between these two practices characterize the research and the reading processes, which are primarily privately elaborated and, later, turned public, constructing a ground for discussion.

*Draw as a private affair* invites the reader to engage and interact with the outcomes presented that emerge from writings, images captured and drawings made during the research. There is no intention of constructing a rule, giving instructions for the reader to follow nor any kind of receptivity. The research guidelines were elaborated in order to obtain information on the drawing material and deal with external and internal contingencies. Therefore, *draw as a private affair* is conceived as a matter of course that follows no ideal of exactness. It relates to the agreement between the researcher and the subjects involved in the research, where the dimension of possibility finds its place, and to the

researcher's autonomy that emerges in the development of the research.

The research paths are revealed through the dimensions of possibility and autonomy, which are bounded by the dimensions of production and availability. These bounding dimensions are not perceived as fixed. *Draw as a private affair* constitutes a possible approach to the research field, which means that it is possible to imagine any other alternative paths. In each stage, the appearance of an empirical illusion is fended off while a circumstantial action is defined. DwA is organized through written, photographed and drawn registers, as the search of a methodology to approach the practice of *draw*ing, and this defines the research rhythm: Draw — From, Along, In and Out.

*From*: this preposition indicates a point or a starting point in place and time. The DF stage sets up the research field through the DwA process that involves the notions of *draw* and *authority*. It marks the starting point of research beginning by mapping the action field and differs from the drawing practice and the research practice of *to draw*, sustained by the notion of *authority* recognized as a *rule* — it organizes the practices in such a way that they are intelligible and prepared for dissemination. In fact, this rule is transversal to all the research. DF concerns the method found to approach the research through drawing scenarios (DS) and relates to the writing, the drawing practice and the presentation of the DwA drawing folder.

The first presented DS: *drawing from DwA*, is in fact the last to be organized. It is composed of diagrams that map the writing of DwA, drawings and graphite silkscreens made by the researcher. This selection of images does not present a determinate sequence. They are shown as *remarks to look at*[1] while writing or reading DwA in any of its stages. Some appear referenced in the text as footnotes and others are visual material that supported and accompanied the writing and the research process. Thus, *drawing from DwA* is a drawing scenario constituted by: diagrams, silkscreens and drawings made by the researcher; texts and image appropriations, as citations, understood as points from which the writing and research paths emerged.

*Along*: defines the research moments in which relationships between researcher and participants were established. These moments contemplate drawing workshops in art schools, the feedback from artists and drawing teachers on the use of ArtGraf N°1 and the work developed with the materials producers. DA is constructed through the recognition of a common space where the drawing practice takes place. Each drawing workshop carried out had a limited duration and in some cases occurred

[1] Silkscreens and drawings in DwA drawing folder (annexes).

only in one session. Therefore, the outcomes presented relate to the researcher's learning experience rather than to the participants' learning outcomes. This approach defines DA as a motion towards the study of the ArtGraf N°1 properties that, simultaneously, informs the researcher's drawing practice. For that, drawing procedures were selected through the observation of how each participant used ArtGraf N°1 and later explored by the researcher in the DI stage. This movement is presented through the DS: *drawing patterns*. Although the DA stage is also recognized as an extended motion (*come and go*) between the researcher's drawing and research practices and the workshops performed, the artists' feedback and the work developed with the materials producers. *Come and go* concerns the relations established between the DA and the DO stages. They are perceived as subjective processes that simultaneously inform the practices involved in each stage.

**DA towards DO:** the observation of the participants' drawing practices using ArtGraf N°1; their opinions about the drawing material; and the drawings produced. This results from the interaction between the researcher and the participants, perceived as a ground from where the drawing practice emerges and influences the research practice on the materials' development context and, also, the researcher's own drawing practice outside the research boundaries.

**DO towards DA:** the workshops' configuration, the researcher's role and his performance during the workshops; and the contact with the artists and the materials producers. The movements from DO to DA are perceived as a reflexive posture within the research development and are related with the researcher's learning experience, from which the outcomes are presented. Therefore, *authority* in the DA stage assumes two main configurations: 1. Through the interpersonal relationships that occurred during the research and 2. As patterns found in the participants' drawing practice, from which the DS: *drawing patterns* emerge.

These two configurations operate through the conception of a horizontal surface on which *authority* circulates. On the one hand, *authority* relates to the researcher's positioning regarding the participants. Thus, his performance manifests the choice of not giving strict directions for the participants to follow in their drawing practice, allowing each one to work autonomously. On the other hand, *authority* is perceived as patterns of action, and it acts as a rule that sets up the DI stage. This rule was created in order to study the ArtGraf N°1 properties and emerged from the observation of the participants' drawing practices and the artists' feedback. Notwithstanding, the approach to the work produced by the participants, with the purpose of selecting the drawing procedures to study, was made without preference for the drawings made by the artists or drawing professionals over

the drawings made by the art students and materials producers. It was intended by the researcher and by the materials producers that the study of the properties of ArtGraf N°1 was based upon the most common drawing procedures observed.

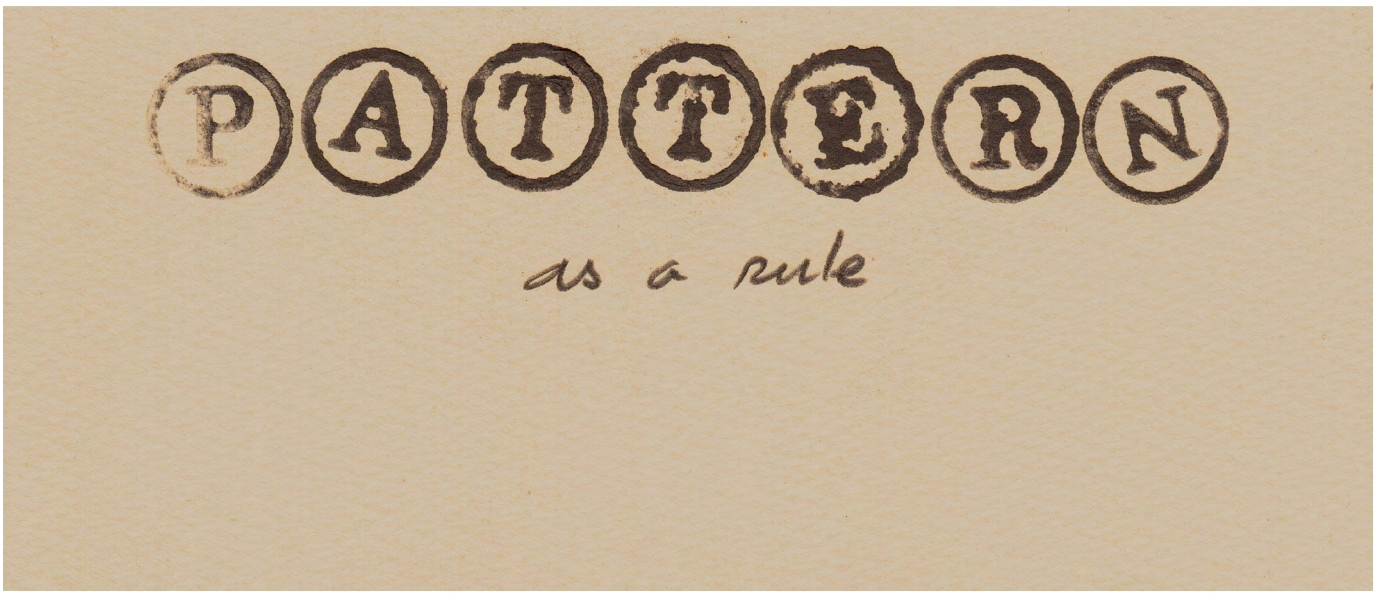



Figure 1.3 Ricardo Pistola. *Pattern as a rule*, 2016.

*In*: as this preposition suggests, *draw* is circumscribed by the study of the attributes of ArtGraf N°1 through the drawing procedures previously identified. *Draw* acquires the status of sample and is developed through the repetition of the drawing procedures on six different paper surfaces. The dimension of availability plays a key role in this scenario: the choice of papers from St. Cuthbert's Mill was dependent on the availability of the company to provide the material to develop this study. The DI stage appears under the DS: *experiment to grasp*, and intends to provide information about ArtGraf N°1's mechanical and physical properties. *Authority* is recognized in the achievement of specific outcomes. Furthermore, in the practice of drawing is established the impossibility of repetition. The drawing procedures' replications occur in different moments in time, thus, what is observed and verified relates to the researcher's personal experience. Nevertheless, these experiments, confronted with the participants' opinions on ArtGraf N°1's properties, provide a sustainable basis to develop formulations of its characteristics.

*Out*: the DO stage appears under the DS: *drawing propositions* that is constituted by fourteen drawings. These drawings were made exiting the DI stage and appear as a critique on the space

that the artistic practice finds within the research field. Therefore, the *drawing propositions* series does not present a defined sequence or composition in the DwA. Instead, it assumes different configurations and purposes throughout the research, which enable it to acquire a specific sense in each context of the study. Yet, it does not exist fixed to any of these forms, it exists rather with the potential to be recomposed and reinterpreted. And, thereby, the *drawing propositions* prevail over meaning and purpose, remaining in the dimensions of freedom and the unknown that precede and reach beyond the boundaries of this research. This acts as a statement that refuses the categorization of the artistic practice by the academy or the industry of drawing materials. The boundaries created by the academic and industrial contexts constrain the artistic practice, which would otherwise be open to the unknown.

Figure 1.4 Ricardo Pistola. *Drawing propositions*, 2015-2017.

This raises questions as: Am I doing research while I am drawing? How can I present my artistic work in a way that is recognized as research by the academy? Do artworks fit with the academic research practices' demands? These are questions present in the actual arts research field and the DwA dissertation is sensitive to these questions and acts upon them but cannot be seen as an answer

to them. DO appears to move away from the research field. However, the works presented in this stage are strongly connected with the research practice. DO recognizes that the learning experience of doing research within the academic context influences the researcher's artistic development and is reflected in his artworks. Because DO establishes the unknown as a key element within the artistic practice, there is no intention of theorizing about the works produced. *Drawing propositions* represents the last research path in DwA and approaches *authority* as authorship. Its history or theory lies within the presentation of the *drawing propositions* as fragments that invite the reader to compose them.

## DwA AS A METHODOLOGICAL INSTRUMENT

The drawing materials' development field and the educational field present us diverse aspects, connections and events. This variety of matters requires an organizing principle, a method that regulates the practical and theoretical approach to the research as a means to develop this project. Practical and theoretical activities involve distinct methods. The former "reflect the historically formed and socially consolidated modes of man's sensuously objective interaction with the world" (Spirkin 1990, 31), revealing the *modus operandi* and corresponding to the human skills. The latter qualify the *opus operatum*, defining the activity modes of human thought from which the rational solution of problems results. "The choice of methods is conditioned both by the nature of the phenomenon under the study and by the tasks pursued by the research." (Spirkin 1990, 31)

This approach to the research field—held in the industrial context of the drawing materials development at Viarco, and, in the educational context, through the work developed with the participants—recognizes two main lines of force: *draw* and *authority*. It organizes the research activity through the drawing practice and is theoretically structured through the notion of *authority*. The drawing practice, in this research, is intrinsically connected with the materials' development, experimentation and observation processes, intending to obtain results that relate to the their physical and mechanical properties. Notwithstanding, this research also has a social component in which participants contribute with their ideas and findings related with the drawing materials, informing simultaneously the materials producers and the researcher. This interaction provides data to both and contributes to the development of drawing materials and to the research. At this point, the notion of *authority* is regarded as a structuring element in the drawing practice, unveiling the follow modalities: interpersonal, experiential and compositional. In each modality, *authority* assumes a different role and is approached through the social activation by the notions of agreement, pattern and authorship, organizing the research activity and the communication between the participants.

*Draw* and *authority* are dialectically placed in this research, their interaction is revealed through the research practice, and the subjective and objective aspects[2] form its unity. The relationship between these aspects is reinforced by the preposition *with(out)*, bringing into the research an intermittence that allows the reflection upon the connections established between *draw* and *authority* and setting up DwA as a methodological instrument.

2 Annex 3 (DwA drawing folder): the subjective aspects are found in the dimensions of possibility and of autonomy; the objective aspects are located in the dimensions of production and availability.

*Draw* and *authority* are recognized as forms of social practice. In its first stage, a*uthority* is displayed in this research context as a framing device that allows the identification and categorization of drawing procedures as a means to obtain outcomes related with the properties of the materials, revealing the compositional function of *draw* in the materials' development field. *Draw* is also recognized as a form of communication and its subjectivity is present throughout the research in its interpersonal and experiential functions, unfolding the participants' reflection on their interaction with the drawing material and the context in which the activity took place. Thus, *authority* structures *draw* as a taxonomic system by ordering the drawing procedures identified while observing the participants' actions and their engagement with the material provided.

The interaction between *draw* and *authority* is not regarded as a representation of what happens in reality, but as an instrument of transformation. DwA is considered as a research method based on the action of drawing and a method of action structured by the notion of *authority*. *To draw* is perceived intuitively through reason and DwA characterizes the research activity through the dimensions of production, possibility, availability and autonomy, from which the research stages emerged. DwA is not conceived as a rigid system of standards and techniques but is a general system that provides guidelines for the research activity. Therefore, DwA sets up principles that act upon each research stage, facilitating their development within the context of the research project.

DwA is about the movements that take place *with* or *without authority* and is perceived as a "symbolic system"[3] that abounds in the research field. The notion of *authority* acts upon *to draw*, simultaneously defining the field of action and the research field as *structuring* and *structured* structures.

As a structuring structure, it focuses on the *modus operandi*, conducting and organizing the practice and its perception. The work developed in the DA stage allowed the observation of the subjects' interaction with ArtGraf Nº1. *Authority* is perceived as a pattern and *to draw* is explored in the ways in which each subject uses the material, with focus on the drawing procedures — *drag*, *attach* and *pull*. At this stage, DwA appears as a subjective structure whereby the "objectivity of the meaning or sense of the world is defined by the consent or agreement of the structuring subjectivities." (Bourdieu 1991, 164)

[3] Bourdieu (1991, 164-165) approaches the notion of symbolic system as instruments for knowing and constructing the world of objects. He presents these instruments as structuring structures, structured structures and as instruments of domination.

DwA as a structured structure focuses on the *opus operatum*, isolating and experimenting the drawing procedures (drag, attach and pull) in order to obtain information about the material's physical and mechanical properties. *Authority* assumes the function of experiment and verification, dividing *to draw* into objective structures whereby meaning is conceived as a product and a condition that allows the analyses of the material's properties and transforms DwA into a methodological instrument.

As a methodological instrument, DwA presents two key DS: 1) *drawing patterns* — as the drawing procedures were materialized by the drawing practice of the participants in the DA stage; and 2) *experiment to grasp* — as the researcher's experimentation process focused on the study of the properties of ArtGraf N°1 through the selected procedures of to *drag*, to *attach* and to *pull*. Here, DwA is understood as a process within the studio activity. It recognizes the movements between *with* or *without authority* through the participants' drawing practice, and their interpersonal relationships in the workshop activity, during the DA stage and, also, in the researcher's studio activity within the research in the industrial context (DI stage). In the DI stage, *authority* is unveiled as an instrument of domination that acts upon *to draw* in the researcher's experiments and DwA is perceived as *Draw with Authority*. *To draw* is determined by the research objectives brought about by the industrial context in which the research was carried out and by the intention to grasp the ArtGraf N°1 properties.

The drawing procedures selected for this study are perceived as structured structures that outline the DS: *drawing patterns*. The circular movements through and around these three actions bind the research and the drawing practice. *Drawing patterns* creates the space for *to draw* as *experiment to grasp* and the role of *authority* is played out through propositions in accordance with the Kantian notion that a practical rule is "always a product of reason, because it prescribes action as a means to an effect that is the aim." (Kant 2002, 30)

## DRAWING FROM DwA: MAPPING THE RESEARCH

The research activity took place in the Viarco factory, in the educational context, through workshops in art schools and, also, in the interaction between researcher, artists and materials producers. These combined circumstances constitute the approach to the educational field, defined through the researcher's experience while working together with all the subjects involved in the activity. The movements between *draw* and *authority* constitute the research field. DwA is made up of stages and is itself a stage in communication with others, implying a constant movement between the notions of *draw* and *authority*. DwA is essentially eccentric in relation to the practices of *to draw* and *authority*, turning the spotlight to a displacement of an analytic problematic. DwA is made from systems of statements and performed subjective structures, towards *drawing scenarios* (DS) that are able to generate new possibilities for reading and bringing up representations and propositions. This identified the four interrelated stages: DF; DA; DI; DO.

DwA, as a stage, is characterized by the set of inter-relations of independent components and by the components themselves. The research components are pointed out through the *Draw* tensor — constituted by the materials developed (ArtGraf range of products) and its use (drawing procedures) by the researcher and the participants —, the *Authority* tensor — constituted by the process developed for this research (DF) and the performance of the researcher and participants (DA, DI, DO).

DwA simultaneously involves: a diagrammatic component — related with the theoretical approach and the research's organization by means of diagrams that allow mapping the research and its movements; a technological component — that relates to the methods applied in the practical approach to the research; an industrial component — referring to the development of the ArtGraf range of products; and a social component — in the interpersonal relationships between the participants and the researcher.

DwA is conceived as a diagram, providing a material and functional consistency and opening the stages of research to diverse registers of relations. The dimension of autonomy takes these relations beyond the availability dimension. The presented stages confer a diagrammatic and a conceptual status to the research that, in this way, embraces the research action and turns the spotlight to its processes, as pathways through which the outcomes are revealed.

**Diagram I**

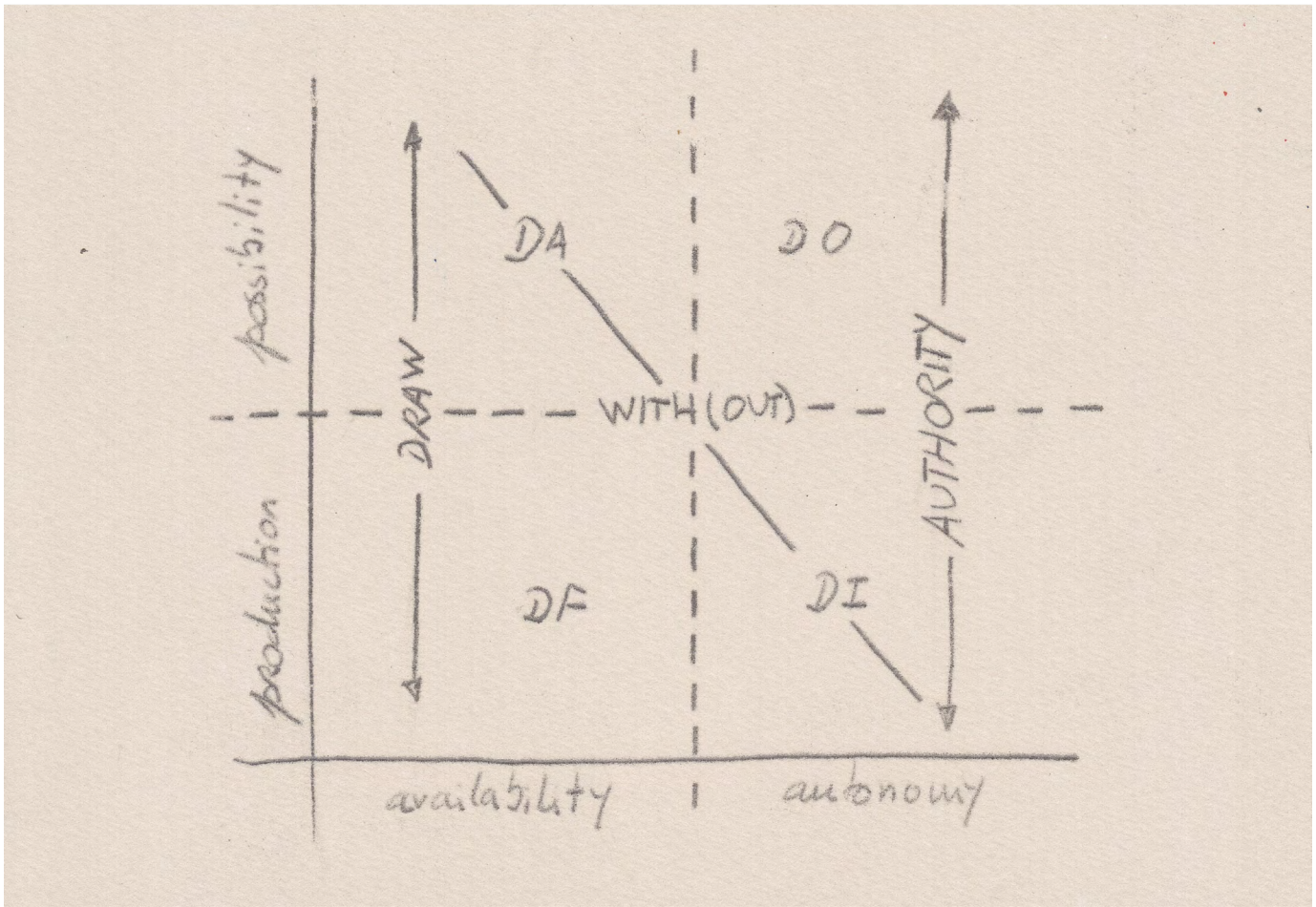



Figure 1.5 Ricardo Pistola. *DwA diagram I*, 2017.

The preposition *with(out)* introduces tension between the notions of *draw* and *authority*. And it is in this space that this research operates, identifying two reversible tensors: *Draw* as a systemic tensor, established on the side of availability, between the DF and the DA stages; *Authority* as a structural tensor, established on the side of autonomy, between the DI and the DO stages. This is the first scaffold of interaction that defines the DwA stage as a process.

The relations between the reversible tensors of *draw* and *authority* are established through reciprocal presuppositions — *Draw*: located in the dimensions of production (DF) and possibility (DA) —, and their relations of configuration — *Authority*: located in the dimensions of availability (DI) and autonomy (DO).

These two sets of coordinates map the configuration of the presented stages and sustain their configurations through the relations that they entertain with each other. Thus, the four stages are not perceived as fixed identities but as crossed-relations between two pairs of dimensions: the production and the possibility; the availability and the autonomy. Besides, the relations of presupposition, established through the *draw* tensor, do not place the DF and DI of production on the same foundations with the DA and DO of possibility. The latter enclose and consider the former in such a way that the production of possibility always has a primacy over the possibility of the production. So, DA constitutes a component of DF and DO a component of DI.

**Diagram II**

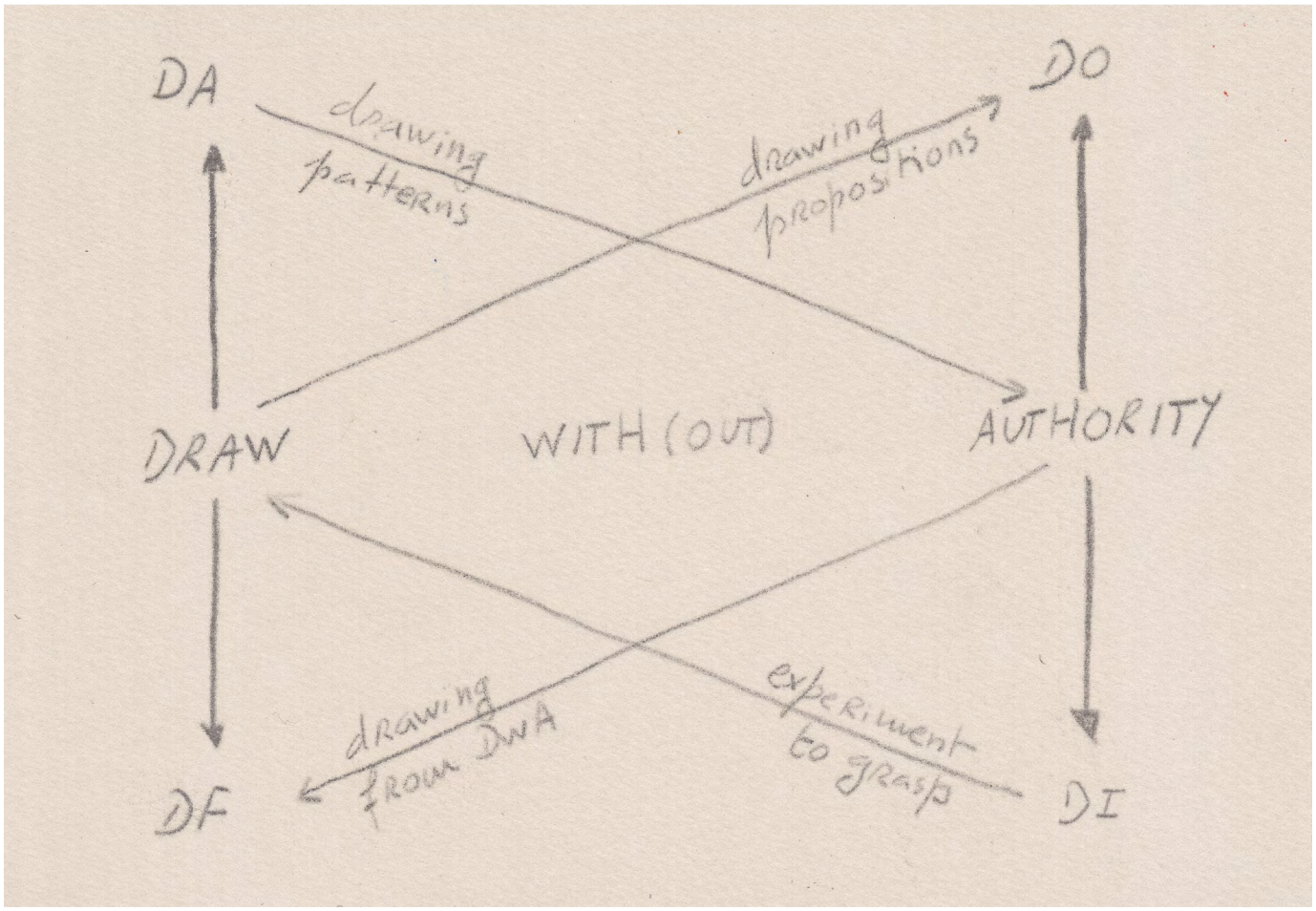



Figure 1.6 Ricardo Pistola. *DwA diagram II*, 2017.

The interactions between the research stages DwA—identified here as DF, DA, DI and DO—take place through non-reversible movements, presented as the *drawing scenarios* (DS). These movements exhibit the research path of continuity and its procedural multiplicity, revealing the methodological implications in each stage. They determine the research itinerary through practical referents (*draw*) and are constituted by subjective referents (*authority*), sustained by the configurations of authorship, social representation and classification.

The research stages DwA—DF, DA, DI and DO are connected through four paths denominated as *drawing scenarios* (DS):

1 – *Drawing from DwA* that circumscribes the research and the action field;
2 – *Drawing patterns* that isolates drawing procedures using ArtGraf N°1;
3 – *Experiment to grasp* where ArtGraf N°1 is experimented in order to grasp its mechanical and physical properties;
4 – *Drawing propositions* where ArtGraf N°1 is explored in order to inform the researcher's further drawing practice on its way out of the research.

The partition of this research, from which the configuration of the four stages DF, DA, DI and DO results, is based upon two notions:

The first notion is that of *Authority*: as an ontological ground, present in all research stages, that circulates between the dimensions of availability and autonomy. Availability corresponds to what is established in the research field and escapes the researcher's decisions. It is rooted in social practice and brings into the research a view of continuity and procedural multiplicity. The connections of availability established in the DF stage relate to the general appearance of the research field (DS: *drawing from DwA*). In the DA stage, they are disclosed in the relations established between the participants and the researcher, which means they are dependent on differences, perceptions and interpretations (DS: *drawing patterns*). Autonomy corresponds to the choices of the researcher and the participants and to the space that the researcher found and/or created to act. It is rooted in his personal path — artistic and educational — prior to the research and reveals a dimension of discontinuity and appropriation. Autonomy connects to the DI through the classification/categorization of the materials' properties (DS: *experiment to grasp*) and to the DO stage through the enunciative character of the experiments (DS: *drawing propositions*).

The second notion is *Draw*: as a referential foundation that remains on the dimensions of production (*modus operandi*) and possibility (*opus operatum*). These dimensions do not present immediate intersections; their relations are rather established through referents of effect (*draw*) and of affect (*authority*), from which the *drawing scenarios* were produced. So, production corresponds to availability — as a systemic referent — and possibility to autonomy — as a structural referent. *To draw* as effect and *authority* as affect are not perceived as an inducement, their interaction is connected to the character of the research stages that effectuate it. This interaction is presented by the DS, which are the consequence of two movements from *authority* towards *draw* – *drawing from DwA* and *experiment to grasp* – and two movements from *draw* towards *authority* – *drawing patterns* and *drawing propositions*.

The DS are inscribed in coordinates that allow the movements between the research stages. DwA exhibits a procedural character that involves the notions of *draw* and *authority* and addresses their relation by considering them in different degrees of intensity. At this point DwA does not intend to define itself as a general model but as a contextual process — DF — that construes a referent, in order to explore the action of *draw* in the materials' development context at Viarco, taking the notion of *authority* through the research stages as a bounding agent.

The *drawing scenarios* provide and articulate the evidence of the movements between the stages: they constitute the space between *draw* and *authority*. They are the bearing of the interaction, which occurs in each stage that is construed through the notion of *authority*, perceived as the force bounding the research. The movements shown by the DS, combined with the tensions between *draw* and *authority* throughout the research dimensions of production, possibility, availability and autonomy, reveal the research itinerary and provide an overview of the connections between the research stages.

***Drawing from DwA*:** Authority is recognized throughout the research practice in both the industrial and the educational context. It is connected to social representation, clarifies the research procedures and exposes the methodological approach to the research field. This methodological approach perceives the notion of authority intrinsically connected to the notion of authorship; consequently, the options of the researcher have a fundamental role in the research courses. At this point, *authority* acts upon *draw* as an affect that determines the research itinerary through the production of a process (DF) and leads it to the dimension of possibility, where the approach to the educational field is made, thus constituting the second research stage (DA).

***Drawing patterns*:** This DS emerges from the work developed by the participants in the workshops and in the Viarco studio's activity with producers, artists and drawing professionals. During the DA stage, the researcher focused on the participants' *modus operandi* using ArtGraf N°1, identifying three main drawing procedures: drag, attach and pull. Combining the observation of the participants' performance with the analyses of the work produced (*opus operatum*), *authority* is recognized as a pattern. Authority, at this point, is assumed as the association between social representation (that originates from the educational practice and reveals common conceptions of the practice of drawing and materials' uses), where the dimension of autonomy is constantly confronted with the dimension of availability, and classification (as a result of the researcher's experiments and the participants' opinions on ArtGraf N°1). This leads to the third research stage (DI), where ArtGraf N°1 is explored

with the goal of generating outcomes that inform about the material's physical and mechanical properties.

***Experiment to grasp*:** Taking as a starting point the notion of *authority* as a pattern, *to draw* is affected by the procedures selected in the DA stage. This drawing scenario is ruled by the notion of repetition, as a means to obtain more detailed information about ArtGraf N°1 properties and its behaviour in a diverse range of paper surfaces. The movements between the dimensions of production and of possibility are constrained, in this research stage (DI), by the dimension of availability, characterized by the work conditions and the materials available to develop the research, as well as the procedures previously identified and selected. The notion of repetition, connected to the idea of an experiment, has a direct influence on the next drawing scenario, the fourth and last research stage (DO).

***Drawing propositions*:** This scenario emerges from the previous DS. However, the notion of *authority*, here perceived in the configuration of the notion of authorship, implies that the dimension of autonomy is prevalent in the DO stage. The movement that comes from repetition, during the experimental context, confers this DS with an exploratory behaviour that focuses on the various uses of ArtGraf N°1. Its enunciative character informs the researcher's artistic drawing practice, taking it beyond the research field.

The researcher's autonomy is unveiled through the movements between the research stages, presented as drawing scenarios (DS). These scenarios are constituted by drawing registers, through which the dimension of autonomy is brought into an aesthetic order. This choice enables the approach to procedural creativity, by assuming subjectivity and its relations with objectivity in the educational field and in the materials' development field.

**Diagram III**

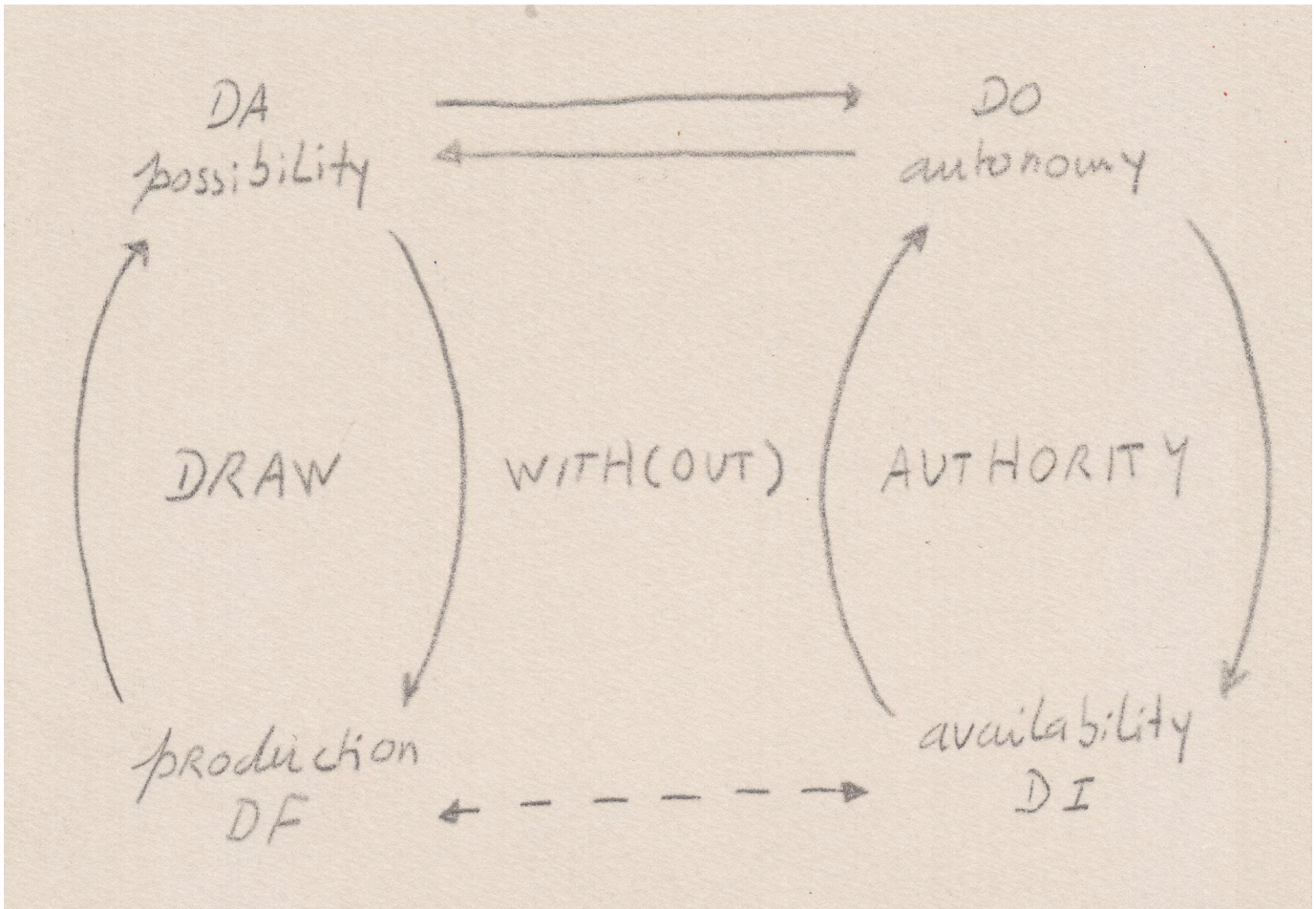



Figure 1.7 Ricardo Pistola. *DwA diagram III*, 2017.

*Draw* finds itself circulating through the dimensions of production and possibility. Thus, *draw* appears in the DF stage, as the design of a process and mapping the research, and in the DA stage, as a shared practice in which the participants' inter-relationships play a key role in their possibilities of action. *Authority* is recognized in the research field as generative choices — dimension of autonomy — and, also, as the contextual contingencies — dimension of availability.

The dimension of production results from a rupture with a fixed conception and works on the duplicity of the notions of *draw* and *authority*. On the one hand, they work through a form of social activation, thus defining a spatio-temporal field on the DA and DI stages. And, on the other,

they claim the autonomy of the researcher's options, bringing about intensities through the DS and defining the DF and the DO stages. The dimension of possibility relates to the work developed by the researcher, the participants and the relations established between them. The notion of *authority* acts upon this dimension through three configurations: authorship in the DF and DO stages, social representations in DA stage and classification in the DI stage. Authorship is perceived as an intrinsic reference and its status operates through two lines of forces — the author and the reader. Social representations are perceived as an extrinsic reference and manifest the propensity of the individuals to act in determinate patterns, considering the context in which they are operating. The processes of expression are related with expectations that are reciprocal between the individual and the group. Classification arises from a point of view, orders procedures, and organizes the outcomes by way of disseminating them.

*Authority* circulates between the dimensions of availability and autonomy. Therefore, it is perceived as the individual performance (of the researcher and participants) and as a force of a group joined by a common activity. It mobilizes collective and/or individual, subjective and/or objective formations. Its presence and action in the research stages contributes to establish connections between them. It presupposes transversality to: DF as a process that maps the research; DA as considered within the inter-relational space where the educational experience occurs; DI as a reflection on objective procedures; DO as that which emerges from the three previous stages and relates to the researcher's drawing practice beyond the research boundaries.

The dimension of availability is concerned with the materials' available and the circumstances from which the researcher's and the participants' drawing practices emerge. Thus, this dimension presents two configurations: 1. Constraining the researcher's and the participants' drawing practice (articulating the DA stage) by limiting their field of action through the materials that are made available, 2. Directing the research practice in its industrial and technological components to the study of the materials' properties (which denote the DI stage). Therefore, availability plays a key role in the research development and acts upon the practice of drawing by bounding it. Notwithstanding, the dimension of availability does not have a direct influence on the dimension of possibility in the DA and DO stages. Autonomy is recognized by the researcher's options — DF, DI and DO stages — and the participants' performance at the DA stage. Thus, autonomy plays a key role in the research development and acts upon each stage in different intensities, unveiling the movement between *with* or *without authority*.

The circular movements represented in this diagram establish relational connections through which the stages' interactions are made visible. Beyond the crossed relations (DS) established in the previous diagram, the research stages are connected by: 1. Energetic relations between the DF and the DA stages, and propositional relations between the DI and the DO stages; 2. Objective processes between the DF and DI stages, and subjective processes between the DA and DO stages.

The energetic relations established between DF and DA are perceived in: 1. DF towards DA as an inductive process, which began with the observation of the participants' drawing practice and sought to find patterns of action from where the crossed relation[4] DS: *drawing patterns* emerged, 2. DA towards DF, as a deductive process that arises from the theoretical background of the researcher's academic teaching training practice, which informs the construction of the research strategy developed in the DF stage. These processes occurred simultaneously during the research and relate to the educational context and to the DwA methodological process that directed this study. The propositional relations established between DI and DO are defined by: 1. DI towards DO as composition processes that arise from the drawing materials' experimentation and inform the researcher's drawing practice in the DO stage – through the DS: *drawing propositions* – and relate to the artistic work developed along the research, 2. DO towards DI as decomposition processes through which drawing procedures are isolated in order to grasp the ArtGraf N°1 physical and mechanical properties. Composition and decomposition processes in this study are perceived as the connections between the drawing practice and the industrial context of this study.

Furthermore, DF relates to DI through objective processes composed by fragmentary representations that allow the observation of the behaviour of ArtGraf N°1 in order to produce information on its properties. These objective processes turn *to draw* into a research process: *Draw in(to) DwA*, which is presented in the DI stage. The relations between DA and DO constitute a constant *come and go*[5] and are understood as subjective processes, whereby the researcher's drawing practice is informed and influenced by the participants' drawing practice and, simultaneously, his studio practice determines his action and performance in the workshops and vice versa.

In the overview of the research stages' connections is noticed that DF never relates to DO. This happens because DO is understood as an exit from the research as well as a stage that does not fit in the academic and the industrial contexts. In this sense, DO is perceived as a stage which is

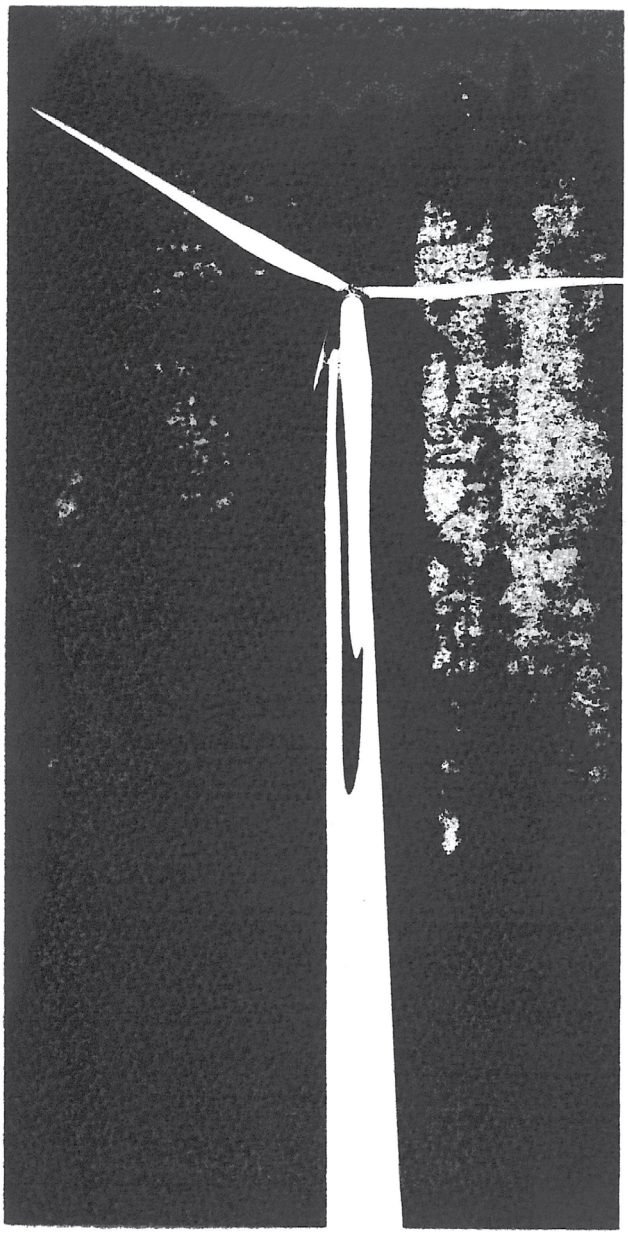
4 Annex 4 (DwA drawing folder).

5 The idea of *come and go* will be developed in the Stage 2: DA.

not submitted to any methodological boundaries but, at the same time, its interaction with the DA and DI stages is viewed as fundamental, since the researcher's artistic practice plays a key role in the research development.

# STAGE 2: DA

**(Drawing Scenario: Drawing Patterns)**



> A being whose activities are associated with others has a social environment. What he does and what he can do depend upon the expectations, demands, approvals, and condemnations of others. A being connected with other beings cannot perform his own activities without taking the activities of others into account. For they are the indispensable conditions of the realization of his tendencies.
>
> John Dewey (1959, 28)

## DRAW ALONG

The DA stage concerns the educational environment (see Dewey 1959, 28) found in the research and the interpersonal relationships established between the researcher and the participants during the research and how these affect the research paths and its outcomes. The drawing practice, at this stage, is perceived as a shared activity that exerts a direct influence on the researcher's options on how to explore and how to conduct the research. Notwithstanding, these interpersonal interactions bring into the research an educational dimension that is related with the researcher's personal experience and the learning that occur through it.

At this stage *authority* is perceived as the researcher and the participants' positioning and action in the research field. The interaction between them conditions their drawing practice through social representations that play a key role in the work's possibilities that present themselves in the art studio as a learning space. Thus, the drawing practice is constrained by the conceptions on what is accepted and recognized as valid by others. Reflecting upon the relations established between the work developed in the studio activity and the boundaries set by the environment where it occurs brings up questions about the power-relations established between the individuals. The interaction between the researcher and the participants assumes different configurations throughout the research, depending on whether the notion of authority is associated with internal and/or external referents. It could be recognized as the action based upon the researcher's personal conceptions of his role in this study context (thereby constraining his production) or as an influence from the part of the researcher exerted on the action of the participants. But regardless of the greater impact of the researcher's actions, due to being seen by the participants as an authority figure, the collective as a whole is still the main educational force. A one-sided influence on another, if considered in a restricted sense, has considerably low repercussions. The collective space, however, is a space of

freedom that forwards possibility by refusing fixed positioning and that deals with contingencies through the creation of an inter-subjective reality based upon a web of relationships.

The DA stage is constructed upon a range of circumstances (the drawing workshops carried out and the experiments by artists, drawing teachers and drawing professionals) that inform and shape the researcher's action. The intermittence implied in *with* or *without authority* positions the researcher in a context of reflexive practice, which alternates between action and understanding. As Creswell (2003, 182) puts it, "[t]he qualitative researcher systematically reflects on who he or she is in the inquiry and is sensitive to his or her personal biography and how it shapes the study." This introspective attitude brings the research into an iterative process that involves the cyclic phases of planning, action, observation and reflection. However, it is intended to preserve the multiplicity of potential interpretations that the collected data presents. Therefore, this research at the DA stage is perceived as a post-qualitative research for not capturing and controlling the data by applying standardized methods (Greckhmaer *et al*. 2005, 738).

DwA emphasizes the importance of experimentation by regarding the possibility of action, in this way, enabling the researcher to develop his personal approach to this study. It avoids the construction of clear boundaries between the known-knower, data-analysis and theory-method. It is considered that the knower only exists in relation with the known and is not independent nor exists before it. DA sets up the drawing practice in the dimensions of possibility and production[1] and the characteristics ascribed to it, in this research, are contingent to the study of the drawing materials and contemplate their experimentation and development. However, the researcher's personal-self becomes inseparable from the researcher-self and is constantly becoming in the research process. Past experiences and the formulation of possible paths entangle in the researcher's present, which, along the research activity, affect what is recognized as data. Thereby, the data collection does not present a well-defined beginning or ending; it occurs during all the research stages and is, to some extent, accidental. Through this assumption, the research practice is perceived as an "affective process" where the researcher's role is understood through its own biases, which play a key role on what relates to the data creation (Kolehmainen *et al.* 2016, 83).

In post qualitative research, the data presents itself as multi-faceted and the approach made to it in this research considers the process of "arting" proposed by Jagodzinski (2010, 118), "which is a process of becoming that generates a *force field*". Thus, "arting" is viewed as relational and is

[1] Annex 3 (DwA drawing folder).

taken as an active unfolding process, through which the researcher's learning informs and allows the emergence of his artistic and research practices. "Relating is a virtual process wherein forces come to be defined through relating itself, through tensions as well as conformity between forces." (Jagodzinski 2010, 116) In this sense, the DA is recognized as *doing* and *letting go* rather than *making,*[2] which generates diverse outcomes. This positioning throughout the research attempts to avoid direct power upon the participants' drawing practice; it is constantly confronted with the notion of *authority*. Besides, the DA stage relates to the educational context where the researcher is engaged in a dialogue with the participants that may or may not result in change.

To engage in an educational experience is to make oneself open to the unexpected, being aware that one will not remain the same as this implies a transformative experience. Working as an artist and researcher in the drawing materials' development, the interest in performing drawing workshops with art students arose from the researcher's previous teaching practice and, also, from the industrial context[3] where this study was carried out. The research activity was then brought to the educational field, in which the researcher's role is understood close to what Maxine Greene writes in *Teacher as Stranger* (1973, 287): that the researcher "must confront his freedom along with the alien freedoms of his students; and because he is bound to attend so much more than performance, speech, and observable instances of mastery, he can never be sure of what they achieve."

However, developing a study on drawing materials raises questions about the making, the procedures and the processes in the practice of drawing. The technical knowledge and skills required to work with a specific material include the knowledge of preceding aesthetic traditions.

Since this research was focused on ArtGraf N°1, and because each drawing workshop in this study

[2] "[T]he distinction between *machen* and *lassen*. The former refers to making/producing, the latter to letting go/releasing. These are two different approaches to "disposing relations." *Machen's* intrinsic meaning is the manipulation of relations and objects through power. This would be a technical praxiology, management with well-defined goals and objectives. Here, forces that shape the situation are held together through dominance and resistance, active manipulation, and passive subjugation. *Lassen*, on the other hand, refers to an *active* release from power, a transformation in the very form of relating, where there is a reciprocal interaction of forces. Here the potential of becoming is released as the (virtual) forces are interrelated to one another. Ziarek states that this line of flight is the way out. This modality of the middle voice is where all the forces are affected and affecting, in movement, reciprocally shaping the field, freeing themselves of *macht* (power) so that a mutual enabling and becoming can take place. What is key here is that this is a new mode of relating, not a reshaping of relations into a new form of power. It is a critical inflection in the tonality of power, a change of momentum where forces are released from the circuits of power in *transversal* as opposed to *integral* lines." (Jagodzinski 2010, 110-111)

[3] One of the claims of the materials producers was to observe how the individuals use ArtGraf N°1 in order to explore the material's proprieties.

had a short duration of time, the approach to the educational environment in DA remains distant from the notion of mastery. DwA sets up the DA stage presenting these workshops as a laboratory of experimentation, where the participants act freely in order to grasp ArtGraf N°1 and the results of their own actions. The notion of autonomy relates to the freedom and to the self-responsibility that is implied in the researcher and the participants' actions. To be autonomous, the subject requires a reflexive posture that places him in a context in which his actions reflect himself and are visible to the group to which he belongs.

However, autonomy involves tensions in the interaction within the DwA stages: when the autonomy of *to draw* is exposed to the *authority* of the tool provided (DA→DI)[4] and to the social context (DA→DF); and when the autonomy of *authority* is exposed to the practice of drawing, and to the role that each subject assumes in the shared activity of drawing (DA⇄DO). The personal perception of the subject's physical encounter with the material unfolds, in unexpected ways, processes of making that inform his own practice and promote the transaction of the findings between participants and researcher.

As previously presented, the DA stage interacts directly with the DF and the DO stages.[5] On one hand, there are the relations established between DA and DF that affect the draw tensor revealing DA as a component of DF. Their interactions are understood as energetic relations established between the researcher and the participants. Draw is conceived as an energetic tensor, which operates through deductive and inductive processes. Therefore, DA constitutes the research's social component, which deals, first, with the work with the materials producers that sets the research's industrial goals and, second, with the work with the participants (art students, artists and drawing teachers) that informs the researcher's drawing practice. The relations established between DA and DF occur in the dimensions of possibility and production and are approached trough inductive and deductive processes. DA→DF is perceived as an inductive process that begins with the observation of the participants' drawing practice, which informs the research's methodological field through the recognition of patterns of action in the drawing practice while using ArtGraf N°1. This configuration takes the DA stage into the dimension of possibility, which directs the research development and where learning occurs through the exchanges between the researcher and the participants.

The recognition of patterns in the participants' drawing practices informs and transforms the

[4] Crossed relation (annex 4 in DwA drawing folder) understood as a path towards the next stage DI that is further explored under the DS: drawing patterns.

[5] Annex 5 (DwA drawing folder).

researcher's action in the next activities. So, DF→DA is perceived as a deductive process, which considers all the information previously acquired, that exerts a direct influence on the researcher's work development and on his interaction with the participants. These interactions between DA and DF are acknowledged as a cyclic movement that informs the educational and the research practices.

On the other hand, there is the interaction between DA and DO, which is approached as a constant *come and go* from the educational practice to the artistic practice and vice-versa. DA⇄DO interactions occur in the dimensions of possibility and autonomy and refer to exchanges understood as subjective processes that inform the drawing practice in the DA and DO stages. Therefore, the educational practice in DA stage is viewed as a relational action that takes place between DA and DO and meets the criterion of *without authority*, which appeals to a practice that occurs in a space of non-power, of a middle voice. This space allowed the participants and the researcher to explore autonomously the language of drawing, through the experimentation of ArtGraf Nº1, and to create connections between past and present experiences. The intersubjectivity that arose from the individuals' interaction is located in the dimension of possibility and takes the drawing practice beyond the assertion of an independent and private symbolic space to the domain of human interactions and its social context. As Bourriaud (1998, 22) contends "Intersubjectivity does not only represent the social setting for the reception of art (…) but also becomes the quintessence of artistic practice." Notwithstanding, the DA stage constitutes the educational research field that in this study is placed in an antagonistic space between the industrial and academic contexts and demands the researcher's participation rather than a passive viewing.

This antagonistic space generates a force field that opens up the possibility of transformation through the researcher's action, in the sense of undoing and reworking the relations of power in the DA stage. Thus, the approach to the educational field is made by the researcher's experience on an undergoing movement through the research stages. It considers that the researcher's artistic practice and his research on the *draw*ing practice emerge from and within the educational field set in the DA stage, through his interaction with the participants, which is embedded in social praxis. Therefore, DA is viewed as a stage in which events of transformation in the research practice occurred and that allows the establishment of direct and crossed relations[6] between the research stages.

[6] Annexes 3 and 4 (DwA drawing folder).

## EXPERIENCE AND EVENT

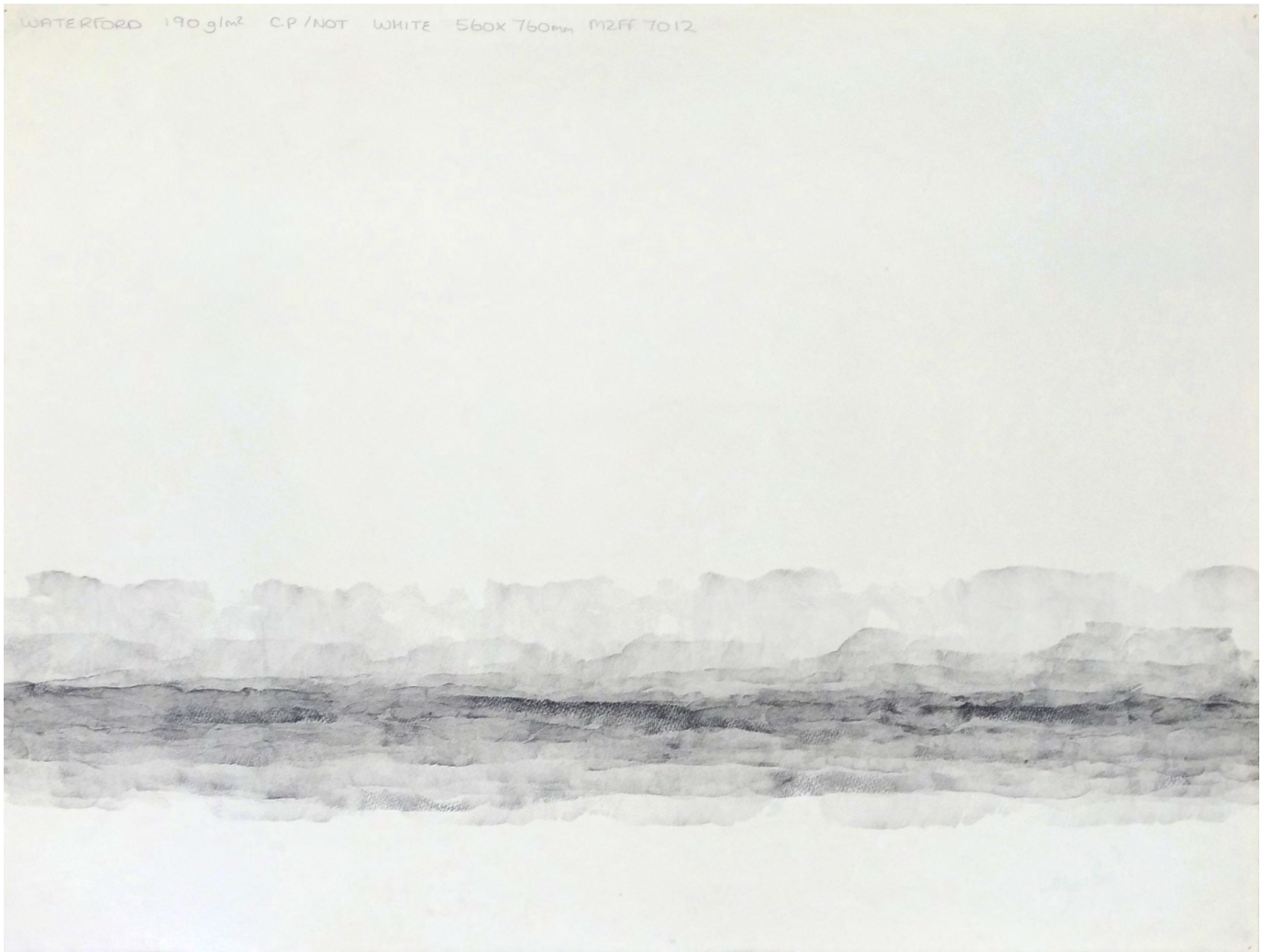



Figure 2.1 Ricardo Pistola. *Drag into landscape*, 2015.

The DA stage is rooted in the domain of human interactions and knowledge is here perceived as a construction based on previous knowledge, experience and understanding. As Bernard Charlot (2000) argues, all knowledge is inscribed in knowledge relations, it is construed in the mind of the collective history and in human activity. Knowledge results from epistemological relations between subjects and is in turn subject to validation, capitalization and transmission processes. Besides, the relations that subjects establish with the world are not only epistemological but could also be perceived as a horizon of social relations.

DA is set in an educational environment that acts upon the researcher's process of inquiry, where he struggles against the unthinking submergence in the social interaction that occurs between him and the participants. Therefore, the researcher is actively engaged in critical thinking and refuses any readymade standardized schemes in the approach to the educational field, revealing a continuous engagement in interpreting a reality that is forever new. Dewey (1959, 79) argues that "[r]eality is a denotative term, a word used to designate indifferently everything that happens." More so, Greene (1978, 2) reminds us that "[t]o be in touch with our landscapes is to be conscious of our evolving experiences, to be aware of the ways in which we encounter our world."

DA is the stage in which experience derived from the interpersonal relationships established between individuals. As already mentioned, it is impossible to be certain of what others achieved. However, during this study were collected drawings and pictures that are registers of actions integrated with the dialogue established between the researcher and the participants, which are important to reveal key moments in the development of this study.

John Dewey (1980) states that experience does not refer only to an individual's experience. He perceives experience in a broad and full sense that includes anything and everything that can be denoted. However, oftentimes "things are experienced but not in such a way that they are composed into *an* experience. (...) we start and then we stop, not because the experience has reached the end for the sake of which it was initiated but because of extraneous interruptions or of inner lethargy." (35) So, an experience occurs when fulfilment is reached. "Such an experience is a whole and carries with it its own individualizing quality and self-sufficiency. It is *an* experience." (35) Experience embraces our past and projected futures, our memories and imaginations, our present awareness, feelings, sensations, concepts, relations, physical events, potentialities. It includes all that is, has been, and has potentiality of becoming. Yet, inherent to an experience there is unity.

Experience combines an active and a passive element[7]. The researcher's self-awareness in the

[7] "On the active hand, experience is *trying*—a meaning which is made explicit in the connected term experiment. On the passive, it is *undergoing*. When we experience something we act upon it, we do something with it; then we suffer or undergo the consequences. We do something to the thing and then it does something to us in return: such is the peculiar combination. The connection of these two phases of experience measures the fruitfulness or value of the experience. Mere activity does not constitute experience. It is dispersive, centrifugal, dissipating. Experience as trying involves change, but change is meaningless transition unless it is consciously connected with the return wave of consequences, which flow from it. When an activity is continued *into* the undergoing of consequences, when the change made by action is reflected back into a change made in us, the mere flux is loaded with significance. We learn something." (Dewey 1959, 31)

conduction of this study underlies its practicability, unveiling variations and movements through ideas that pervade its development. The environment in which this study is held, leads the researcher's activity to respond to temporal and spacial situations, which allows the activity to be differentiated in the "preparatory or anticipatory, and the fulfilling or consummatory." (Garrison *et al.* 2012, 43) The mediation between immediate non-cognitive experiences using cognitive meanings form the basis of inquiry,[8] perceived as artistically creative, leading to the formulation of conclusions that are the foundation of the consummatory aesthetic experience. "We say of an experience of thinking that we reach or draw a conclusion." (Dewey 1980, 37)

DwA exposes the problematic relation between authority and freedom, the researcher's perception of the research environment sets the basis for the construction of DwA as a process to approach the research field. Here, Dewey's definition of authority must be borne in mind:

> Authority stands for stability of social organization by means of which direction and support are given to individuals while individual freedom stands for the forces by which change is intentionally brought about. The issue that requires constant attention is the intimate and organic union of the two things: of authority and freedom, of stability and change. (Dewey 1959, 8)

In this sense, DwA can be perceived as a preparatory stage of the research activity. Therefore, experience relates to the thinking process of the construction of DwA, which acts upon the research and is perceived as a matter of decision[9], making room for the constructive and creative-exploratory thinking. Yet, the notion of *authority* plays a key role in the manner by which this study is conducted, and it is not understood in opposition to freedom. *Authority* is perceived as the capacity of directing and promoting action, functioning along with a kind of freedom that is shared and informs *authority* as an organic structure. Thus, DwA functions as a set of lenses in the approach to the research field within a reflexive practice that allows the researcher to develop his personal drawing practice, which is informed by the interaction with the participants. DwA is recognized as a preparatory stage in the research development and it does not present any fixed entity. *Draw* and *authority* relate to each other through a constant movement that brings up their reciprocal influence.

However, in the researcher's perception of the social interaction that occurred in DA, experience is understood as a process of learning and transformation. The educational environment in DA sets the basis for the development of this study, which acts directly upon the researcher's drawing practice.

[8] "Inquiry is the controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole." (Dewey 1959, 47)

[9] Matter of decision is related with Badiou's concept of event in *Being and Event* (2005).

Experience is recognized through the potentially transformative effect of the educational relation. DA relates to DO through reciprocal interactions that inform each other. Thus, the researcher's drawing practice is in relation with the experience that occurred in DA and the researcher's drawings appear in this stage as a result of his interaction with the participants and the observation of their drawing practice. Therefore, DO, which is the researcher's artistic drawing practice, can be perceived as the consummatory stage of the experience in the DA stage as well as of the whole research.

### Draw at Viarco

The development of the ArtGraf range of products at the Viarco places this study in the dimension of production. Working with the materials producers took the action of drawing into an artful dimension where the materials' functions and their proprieties are the focus of the action. Thus, *to draw* relates to the drawing materials' production and is approached in the environment in which the research arose.

When this study started in 2013, the ArtGraf range of products was already in development since 2007. However, back in 1990, António José Vieira Araújo (Viarco's director at the time) in collaboration with José Emídio, artist and art teacher, had already started working in the development of a soluble material made with graphite. At that time, while visiting the Viarco's depositories where the graphite is placed before going to the ovens, José Emídio became interested in experimenting drawing with a large graphite ball in order to obtain a large blot.

For this purpose, he took one of these pieces back to his studio but the graphite had dried out and did not allow achieving the expected effect. Later on, António José suggested mixing it with water, a semiliquid graphite was obtained that was used to draw with a brush. José Emídio thought that the result was unique and presented its own expressive character, which, according to him, the painter Sá Nogueira (1921-2002) defined as: *pencil by brush*. However, because of issues related with the factory management, this material was not produced at the time. Only later, in 2007, the watercolour graphite was finally produced.

Figure 2.2 Graphite prepared to go to the oven.

In 2008 I moved my studio to the Viarco facilities

and it was then that my collaboration with the factory started. In that period, I experimented with the watercolour graphite (Figure 2.3) and realised that the product's characteristics did not suite my purposes. Thus, I suggested crushing it and transforming it into a powder that would allow obtaining a wider grey scale and controlling it with more precision (Figures 2.4, 2.5). Yet, it was only in 2015 that the graphite powder was released onto the market. The graphite powder uses will be addressed in more detail in the DI stage.

Figure 2.3 ArtGraf graphite watercolour.

Figure 2.4 ArtGraf graphite powder.

The openness of Viarco to work close with the materials' users characterizes their strategy in the development of new products. This activity involves an artful making attitude. "Artful making is a process for creating form out of disorganized materials." (Austin *et al.* 2003, xxv) Making is related with exploration and production in the drawing materials' development and in the drawing practice that, simultaneously, inform each other. This making process reveals an iterative structure, where the work consists of altering or combining materials. In the experiments carried out while developing the products, the artful making is differentiated and at the same time connected to the "(...) industrial making, which emphasizes the importance of detailed planning, as well as tightly specified objectives, processes and products" (Austin *et all* 2003, xxvi), with the purpose of increasing productivity. Artful and industrial making are complementary and used in combination in order to expand the knowledge in the drawing materials sector.

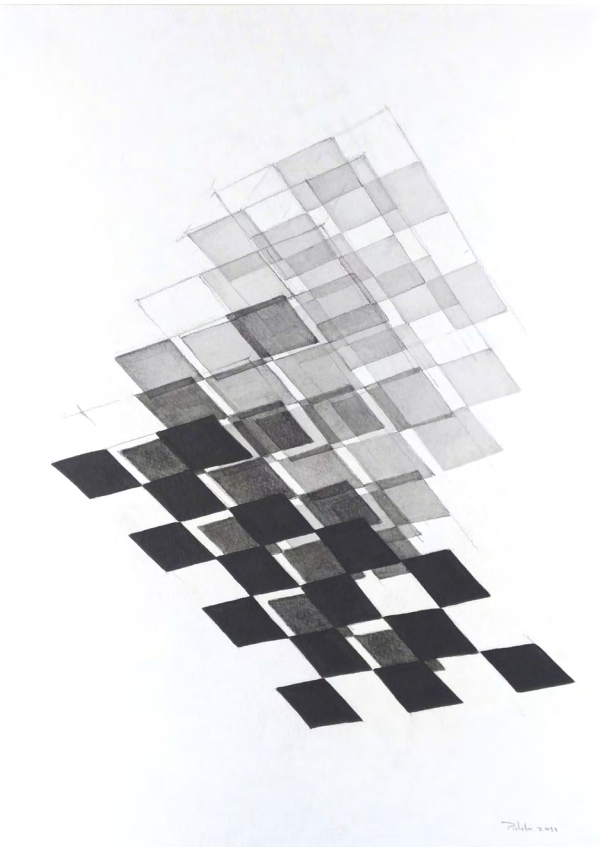


Figure 2.5 Ricardo Pistola. *Untitled*, 2011.

Developing drawing materials requires making

experiments in order to perceive them as tools. DwA acts upon the experiments and *authority* is seen as the force of execution and mastery. Mastering a tool relates to the production of knowledge about its use and the techniques explored through it. Ralph Mayer (1969) defines technique as "the manipulative skill an artist employs in the use of medium and mastery of a material as well as his general knowledge of the mechanical details of his art (...) the mastery of a technique, although usually associated with apprenticeship of craft, can never be completely separated from the achievement of inventive artistic expression." (389)

Since we are working in an industrial context, we intend to know about the future uses of the material and this is where the movement between execution and mastery comes to pass. The action of drawing is ruled by the experiment, as a means to grasp the material's possibilities as a drawing tool and its physical and mechanical properties. The previous knowledge about drawing materials, drawing techniques and production procedures are present in the experiments and inform the art materials producers and the researcher's drawing practice about the characteristics of materials. Therefore, the experiments made in this study are the result of an exploratory behaviour, which is the norm for the drawing activity at Viarco.

### Draw with the materials producers

While carrying out this study at Viarco, various materials were developed simultaneously. For this reason, some of the drawings here presented are made with various materials. They offer knowledge about how the materials interact with each other and are the result of a practice that considers their free use and does not intend to frame them as a catalogue of technical effects. To draw with the materials producers refers then to the exchange of ideas that are fundamental for the development and refinement of the materials. Thus, this environment is perceived as educational in the sense that the researcher and the producers learn with each other with the goal of improving their professional practices.

During this study, drawings were made by the materials producers and the researcher in order to grasp the characteristics of the materials. These drawings are the result of discussions about the materials' attributes. They were made while speaking about the materials' properties and serve the purpose of testing and reformulating the materials to achieve better outcomes.

The materials developed during this study were the following:

ArtGraf tailor shape, inspired by the traditional tailor pencil, is a water-soluble pressed pigment block. Its softness and solubility allow the production of a vast range of shades and transparencies and it presents, at the same time, a high degree of opacity. The first set of colours that were produced was sanguine, ochre, sepia, brown, dark brow and black carbon (Figure 2.6). While developing this material, various formulas were experimented in order to achieve the wanted material consistency, colour, solubility and mechanical resistance (Figure 2.7). Subsequently were also developed the colours blue, yellow, red, white and a tailor shape of graphite (Figure 2.8).

Figure 2.6 Drawings made by the materials producers and the researcher while developing ArtGraf tailor shape, 2013.

A graphite marker was developed and was not released onto the market due to technical problems associated with its functioning. However, this product had a satisfactory performance in the researcher drawing practice, since it was highly opaque (Figure 2.9) and also enabled transparencies and lines with a distinct expression from the traditional graphite pencil and the water-soluble graphite (Figure 2.10).

Figure 2.7 Experiments while developing the formula of ArtGraf tailor shape.

ArtGraf N°1(Figure 2.11), a smooth, kneadable graphite putty, that allows the users to shape their own drawing tool based on their specific needs, and which became the main focus of this study. The first reason for this choice relates to the possibility of shaping different tools, taking the action of drawing to a moment that precedes the mark making (Figure 2.12). This characteristic brings into the drawing practice a more bodily implicated action, where the user is constantly confronted with the need to reshape the drawing tool. Therefore, control is a problematic notion while using

Figure 2.8 Drawings made by the materials producers and the researcher while developing ArtGraf tailor shape, 2014.

ArtGraf N°1. This graphite putty presents different characteristics depending on the humidity present in the material as well as in the atmosphere. Thus, the ArtGraf N°1 characteristics, shape and environment[10] are perceived as the first scaffold of the notion of *authority* in the DwA process.

The second reason relates to the authorship of the idea that gave origin to this material. While carrying out this study and through the dialog established with the materials producers and the artists that collaborate with the Viarco factory and contributed to the development of ArtGraf N°1, it was possible to place the source of the idea that eventually gave origin to this material back in 1990, in the contribution of José Emídio. As mentioned above, the artist, at that time, intended to draw directly with a large ball of graphite. The attempt to create an effective material was unsuccessful and the effort was put on the development of water-soluble graphite that was only produced in 2007. The actual director of Viarco, José Miguel Vieira Araújo, was unaware of this attempt because he was not working in the factory at that period. During an artists' residency at Viarco art studios in 2014, the artists Marco Moreira and Richard Câmara, while working with a paste used in the wax crayon production, became interested in developing a similar material with graphite. The idea was to create a graphite plasticine, and although their attempts to produce were unsuccessful, it led to the conception of a kneadable graphite putty meant to be used as a drawing material:

Figure 2.9 Ricardo Pistola. Untitled, 2015.

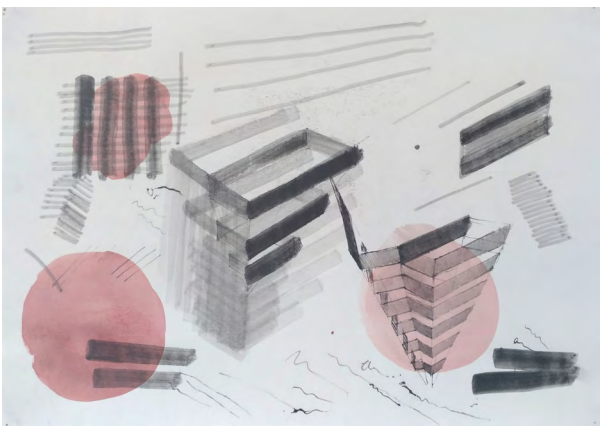


Figure 2.10 Ricardo Pistola. Untitled, 2015.


Figure 2.11 ArtGraf N°1.

ArtGraf N°1. In the development of ArtGraf N°1,

[10] Environment is here related to the use of an unconventional material in the workshops carried out during this study.

various formulas were produced and tested until the material was finally ready to be released onto the market. The notion of *authority* as authorship[11] appears here as indefinable, since ArtGraf Nº1 is the result of a collaborative work.

> All Authors
> What with the multiplication of reproductive processes, of the means of distribution, and the complexity of techniques of creation, the identity of the author is more and more difficult to grasp and define. The paternity of a work, then, indefinable? (Nesbit 1987, 229)

Figure 2.12 Shaping ArtGraf Nº1.

This also leads to the conclusion that the materials' development environment at Viarco lies in the assumption that knowledge and development can only be reached through the interaction between individuals and the exchange of ideas. Thus, the factory's openness to work in close collaboration with the materials' users reveals itself as a motor for the factory's growth, allowing, at the same time, the users to have contact with the materials production and, together with the producers, to idealize and experiment new materials.

[11] This notion will be further explored in DO stage.

## Drawn by

This section refers to the drawings made by artists using ArtGraf N°1. This graphite putty was given to the artists to experiment it in order to collect information about its possible uses and to gather more opinions about it.

### Artistic practice using ArtGraf Nº1

The following are images of the works made by artists and their testimonies about the experience while using ArtGraf N°1.

**Cláudia Amandi:** Generally this material seems to present good working conditions on large and flat surfaces, when the intention is to work in a direct, wide and without great format and size constraints. The characteristics mentioned here are relative to a very specific process that opposes to that mentioned above. In this context, the material was used on a mask and transferred to the final support (slightly larger than an A4) in the shape of circular marks. By applying the material in layers a surface with different shades, concentrations and dispersions of grey circular marks was obtained. This process required some control in the action, even though it was carried out intuitively.

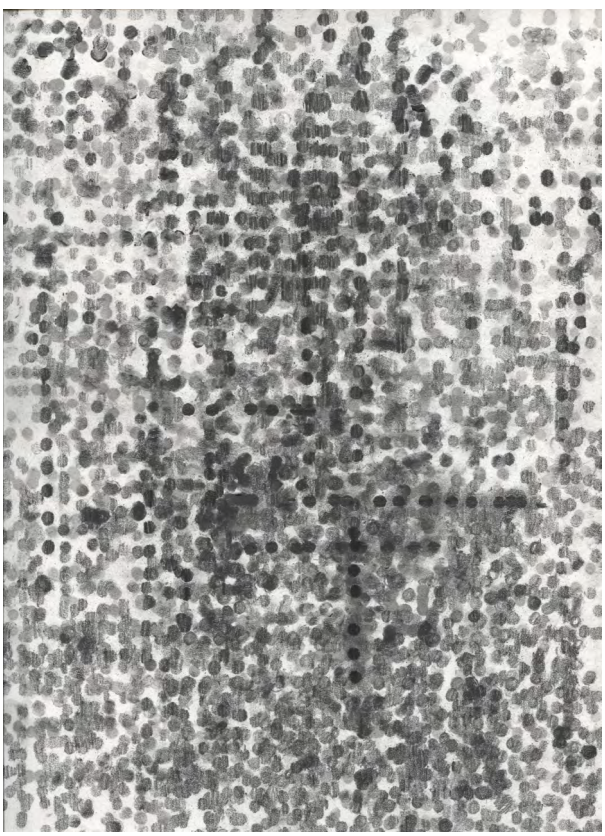


Figure 2.13 Cláudia Amandi. *Untitled*, 2015.

Cláudia thought that the graphite putty overlays (with this mask method) would allow a wide variety of shades of grey. Since the putty did not allow her to immediately obtain very dark tones, she also used graphite pencils to darken some of the marks. This effect (darker shades) was obtained both by the direct use of mines 6B and 8B and by using the putty to "drag" and darken the deposited graphite on the support and around the edges of the mask. If at the beginning of the process the graphite putty had a consistency that allowed her to drag it efficiently, in

the development of the process the putty tended to dry out, which made it lose its initial hardness and disaggregate easily.

**J. Jorge Marques:** pointed out the mechanical properties of ArtGraf N°1 as one of the distinguishable characteristics of this material, compared to other commonly used graphite materials. The fact that a large amount of putty could be used to cover large surfaces and give great density to the drawing surface granted aspects to the surface that allowed exceeding its original appearance. Thus, Jorge saw this material as a means to create an expressive surface from which the drawing begins. The graphite putty not only endowed the drawing surface with an expression characteristic of the material's qualities, but also allowed posterior actions that made the manipulation of the graphite surface possible: polish, scratch, crease. The surfaces produced with the graphite putty, even when polished, did not become impermeable to water. Moreover, the changes made to the surfaces could be easily undone and ArtGraf N°1 presented an increasingly frail consistency. This brought up questions concerning its permanence and the preservation of the drawings. The instability of the material, however, also generated unpredictable circumstances that promoted and enabled the incorporation of the accident into the drawing practice.

Figure 2.14 J. Jorge Marques. Untitled, 2016.

Figure 2.15 Tools used by J. Jorge Marques.

As Jorge said: *sometimes I change what I want for what I get*. According to him, in the development of his work and experimentation with ArtGraf N°1, his working process was inverted: because dragging the graphite putty on a previously wet surface improved the material's attachment to it, he started out by making the graphite surface. All the geometric elements present in his drawings were later created through folding and relief markings on the prepared surfaces. He perceived that the relation between body and drawing had been altered. ArtGraf N°1, due to its putty characteristics, required

shaping it into tools and this brought into the drawing practice a more bodily implicate action. It also brought about the necessity of using tools that he usually did not use for drawing, such as: fabric to polish, rulers to crease, brush to moisten, sponges, sandpapers, precision knifes and wood tools to scratch and groove (Figure 2.15).

J. Jorge Marques perceived ArtGraf Nº1 as a scenario for drawing; he understood it as a surface, an ambience where the action of drawing was unfolded through the discovery of other instruments that could be used to produce marks.

**Sílvia Simões:** While working with ArtGraf Nº1, Sílvia realized that this material suited her drawing practice better when mixed with water. However, she noticed that in the application of the graphite putty mixed with large amounts of water onto a paper surface without texture, sediments of graphite accumulated and compromised the homogeneity of the shades. Yet, she integrated this accident and produced a work where the visual texture is achieved through the various shades of graphite. Sílvia also observed that the putty enabled the creation of material textures, yet, she did not explored this potential since it did not served her purposes. Sílvia also pointed out that while using this material in more expressive actions she had difficulties in obtaining darker tones. Generally, Sílvia saw the strength of ArtGraf Nº1 in its soluble characteristics, which allowed a vast range of transparencies as well as a good degree of opacity.

Figure 2.16 Sílvia Simões. Drawing in process using ArtGraf Nº1, 2017.

**Mafalda Santos:** explored the potential of ArtGraf Nº1 in a series of drawings that reveals the process of differentiated procedures. Mafalda expressed that she had some difficulties adapting the use of the graphite putty to her drawing practice that usually involves a great level of detail and control, which

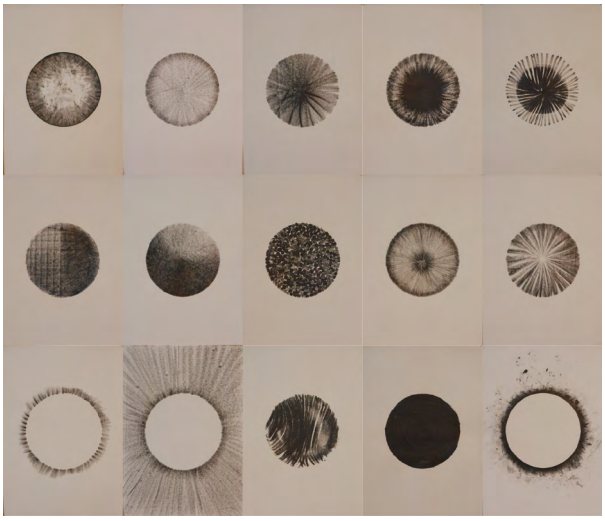


Figure 2.17 Mafalda Santos. Untitled, 2015.

ArtGraf N°1 did not allow. Thus, the drawings were made using a mask as a means to isolate the drawing procedures and acted as lenses in order to grasp the ArtGraf N°1 properties. Yet, she also noticed that this material allowed her to explore other formal and procedural solutions that she found very interesting, with greater freedom of movement and on large surfaces.

Figure 2.18 Images captured by Augusta Marques from the students working with ArtGraf N°1.

## ArtGraf N°1 in the classroom

The use of ArtGraf N°1 in the teaching of drawing is here addressed through the testimony of Augusta Marques about her experience using ArtGraf N°1 in the school context, while carrying out her activity in the context of the Master in Teaching of Visual Arts.

According to Augusta, the first time that she experimented ArtGraf N°1 was before the activity took place in the classroom. Since her drawing practice occurs only within the architecture context, she experimented the graphite putty in an uncommitted way and started making observation drawing, taking into account that she would be developing a similar work with the students. The first difficulty that Augusta found was the need to shape the material in order to obtain a tool that would allow her to make precise marks on the paper. Notwithstanding, she realized that ArtGraf N°1 allowed her a great freedom of action, especially on larger surfaces. Once she experimented with it on a smaller surface, she felt that the control over the material was lost. However, in this experimentation process she did not

take advantage of the ArtGraf N°1 soluble characteristics, using it only directly from the package.

While working with the students, the activity was conducted in two instances: one of free experimentation and another that contemplated a work proposal on portrait. This material, in the school context, is of more value when used in proposals that contemplate experimentation, rather than in typical formal work proposals related with an artistic movement or connected to some kind of drawing tradition. For this reason, Augusta recognized that the presence of this material in this context would be of importance, in the sense that it could diverge the attention from the production of drawings conducted by a specific way of doing and provide the circumstances for improvisation and the discovery of creative technical solutions. Since the material was new both to the teacher and to the students, there was no "correct" way of using it, which allowed the learning process to take place in the view of a horizontal conception of knowledge circulation and power relations established in the classroom context. In this sense, the teacher did not assume the role of the holder of knowledge, being included in the learning process along with the students.

The dialogue between teacher and students, and among students, assumed a key role in the findings and learning that occurred in the pedagogical context. The autonomous process of experimentation brought into focus the control over the graphite putty. The students' main difficulty, according to Augusta, was dealing with the impossibility of obtaining results or using techniques similar to those they were used to learn and produce in the school context, due to the singular characteristics of ArtGraf N°1. To work with an unknown material, without prescriptions about its use, requires the establishment of a dialogue between the individual and the material. The ability to control ArtGraf N°1 comes with practice and requires assuming the unknown and the accident as constituent parts of the drawing activity, in which memory and knowledge are shaped through experience.

## Art studio as a learning space

Figure 2.19 Drawings made by students.

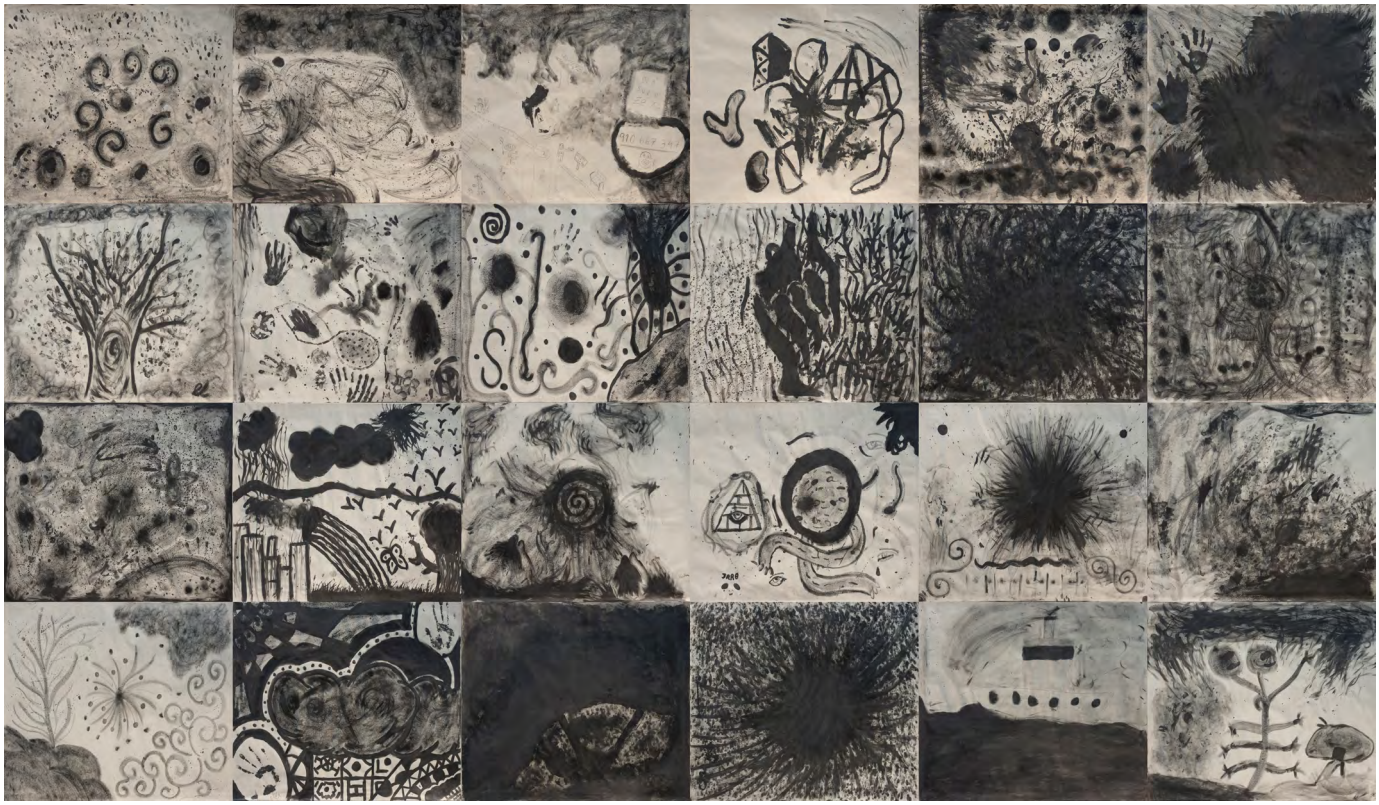


Figure 2.20 Drawings made by students.

Figure 2.21 Drawings made by students.

In conceiving the art studio as a learning space, where interpersonal relationships occur, underlies the intention of unpacking and re-articulating the act of making in the drawing practice and the educational experience in the drawing workshops. This confirms Atkinson's (1998, 50) argument when he states that "[t]he teacher's assessment predicates a specific drawing practice and thus a particular kind of drawer." This assumption gives evidence to the constitution of power-knowledge discourses in the unfolding of the individuals' subjectivities as drawers. The inquiry is about the participants' interaction. The workshops, carried out within the scope of this study, were conducted in school contexts and present distinct conceptions of the teaching of drawing. The act of making is differentiated in each workshop and assumes in itself tensions between *with* or *without authority*. Whether in the participants' interaction with the material, shaping it and creating their own tool, or in the participants' social interaction, they are joined in a shared activity where contingencies and conditionings are unpredictable, unknown, determined by the environment and reflected in the drawings.

These workshops took place in various art schools, with distinct methodological approaches to the teaching of drawing that in some cases constrained the researcher's actions. Three main approaches could be pointed out. One rooted in rationalism, in which analytical objectivity assumes a major role and observation drawing presents an objective ontological attitude towards drawing from a fixed position (Figure 2.19). Reality is seen as absolute and the application of sight-size method is emphasized. Here, the drawing practice is understood as the "application of knowledge", relates to "ability" and "is viewed as a construction within a particular discourse." (Atkinson 1998, 49) Therefore, the act of making in the drawing activity unfolds into aspects of subjectivity, regulated

by discourses present within particular sites of practice. Another approach assumes reality as an individual experience, revealing a subjective ontological attitude towards drawing (Figure 2.20). This methodological approach challenges the academic analytical objectivity. "Reality (…) was construed more as an individual subjective experience, to be expressed through non-objective, non academic means." (Riley 2012, 156) This approach explores the emotional responses that emphasize the individual eye, bringing into consciousness the dialectic relationship between the masses and the individual. And, in the third approach, realities are recognized as social constructions (Figure 2.21). This constructivist approach to the teaching of drawing reveals a relativist ontological position towards the drawing practice. It is connected to criteria of authenticity and characterized by the openness between subjects, the personal development, the understanding of ontological constructions of others and the empowerment of action beyond the teachers' instructions.

In these drawing workshops, the researcher and the participants are positioned as educational subjects. And, since the researcher is involved in the activities, he chose to act differently from the discursive practices that normalize, regulate and form the teachers' and learners' actions within the school context. This educational approach rejects any hierarchy that might emerge among subjects, as well as external forms of authority. "When external authority is rejected, it does not follow that all authority should be rejected, but rather that there is need to search for a more effective source of authority." (Dewey 1998, 8) In this sense, *authority* can be perceived as a possible guideline for the workshop activity, which is defined through the dialogue, the interaction that transpires, and the creation of inter-subjectivities among all the participants.

The art studio is perceived as a "(…) space that attempts to accommodate unpredictable or unexpected directions in learning" (Atkinson 2013, 138), and this approach is not controlled by specified learning outcomes. This implies an element of risk taking from all the participants in their practices and the perception of learning as an ontological evolution without a clear sense of outcome. As Dennis Atkinson (2013) proposes a "(…) 'pedagogy of the event', in order to expand our grasp of what it is to learn and lead to the possibility of forming new and more effective learning communities", where learning is perceived through the notions of "potentiality and the 'unknown' of becoming." (139)

## POTENTIALITY AND UNKNOWN

> For everyone a moment comes in which she or he must utter this 'I can,' which does not refer to any certainty or specific capacity but is, nevertheless, absolutely demanding. Beyond all faculties, this 'I can' does not mean anything — yet it marks what is, for each of us, perhaps the hardest and bitterest experience possible: the experience of potentiality.
>
> Giorgio Agamben (1999, 178)

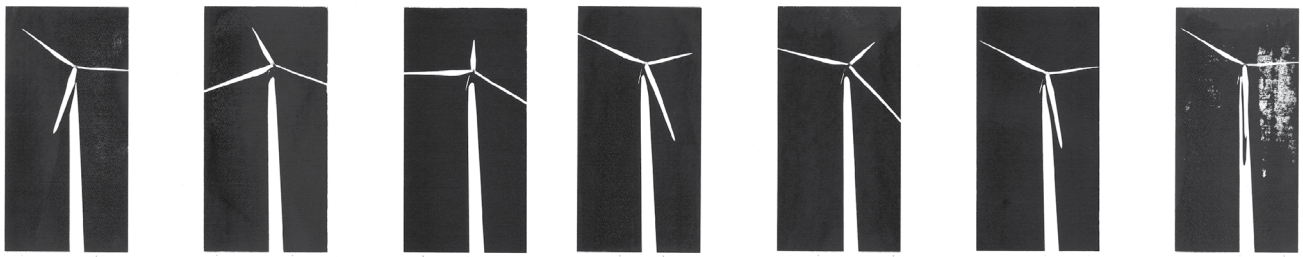


Figure 2.22 Ricardo Pistola. *Iteration #1* (detail), 2017.

The experience of potentiality places a choice — to act or not to act. Therefore, it becomes pertinent to approach the Aristotelian distinction between two kinds of potentiality. One in which the subject has the potential to know and, in this sense, "he must suffer an alteration (a becoming other) through learning." (Agamben 1999, 179) And another where the subject has the knowledge or ability that allows him to act upon an informed reflexive action.

These two notions simultaneously oppose and connect the potentiality (dynamis) with the act (energeia), taking us into the domain of practice from where knowledge arises and into the domain of possibility, perceived as a contingent action. For Aristotle, all potential of to be or to do something is in fact the potential of not to be or not to do, without which potentiality would be indistinguishable from the act. "This *potential not to* is the cardinal secret of the Aristotelian doctrine of potentiality, which transforms every potentiality in itself into an impotentiality." (Agamben 1999, 215) This notion is present throughout the DA stage, in the researcher's action, observation and reflection, perceived in degrees of intensities.

The DA stage provided the field of the research possibilities. Thus, potentiality is understood in

the domain of possibility — configured as the "future in the present, something which does not exist as a given qualitative definiteness but which may appear and exist, which may become a reality under definite conditions." (Spirkin 1990, 173) It expresses the researcher's self-motion and self-development, which occurs through his interaction with the participants and defines DA as the educational research environment. Therefore, the researcher's action, at this point, is defined by his openness to the unexpected, without idealising or directing the participants' drawing practice. The reflection upon their work was made subsequently through observation and dialogue.

The refusal to give specific coordinates to the participants had the goal of bringing into the research ways of doing that couldn't be anticipated by the researcher's own experimentation with ArtGraf Nº1 in his drawing practice. Thus, the participants contributed with their approaches to the drawing material's experimentation and enriched the study of its possible uses. This is perceived as an ontological attitude towards the knowledge on how individuals interact with and relate to the drawing material provided. It goes beyond the scope of the empirical verification while, nonetheless, possessing an objective value that may be discovered, through a stage of inquiry drawn outside the limits of the industrial and the academic contexts, providing guidelines to DwA as a research process.

DwA as a process, in the DA stage, meets the notion of potentiality in the sense that it allows the intermittence between *with* or *without authority*. At this stage, *authority* assumes a polysemic character and is understood as: the influence of the industrial context upon the research; the researcher's artistic, pedagogical and research practices; the influence of the researcher upon the participants' action (especially in the workshop activity); and the participants' authorship in their own drawing practice. These notions of *authority* act upon the drawing practice and turn the spotlight to the individuals' autonomy. They bring into the research the unknown, which requires the researcher's openness to new approaches to the research activity and the constant redefinition of his positioning through reflection based upon his interaction with the participants. Therefore, *authority* is understood as a system of forces that affects the researcher's perception of the research activity and, consequently, of his own drawing practice.

The connection established between potentiality and *authority* is here perceived as the force field that brings the researcher into action. Taking into account that, at the DA stage, the research field is located in the gap between the industrial and the academic contexts, this approach to the educational field does not fit the school institution. Thus, it is assumed that the outcomes that are

presented came only from the researcher's experiences and findings, even when they are supported by assumptions or works developed by others. This positioning in the educational field relies on the assumption that it is in fact impossible to know what others learn and achieve through an activity, specially considering the short time duration of the workshops carried out in this study.

Figure 2.23 Ricardo Pistola. *The cloud of the unknown*, 2015.

At this point, the unknown plays a key role in the research activity. On the one hand, there is the impossibility of determining what the participants learned, and on the other hand, there is the positioning of the researcher in the research field, which involves assuming the research activity as the development of a work that integrates risk taking and, therefore, not having pre-defined hypotheses about how the participants will act and use the drawing material in study. Embracing the unknown means that the research is carried out in a field of work that does not offer a security net, where one must explore freely and without following a pre-established itinerary that leads to previously formulated answers. Thus, the research outcomes in the DA stage are dependent upon the researcher's perceptions and interpretations, but they are also influenced by his past and present experiences as a student, artist and worker in the field of drawing materials development. In addition to the observation of how the participants relate to and interact with ArtGraf N°1, the construction of this research stage had the purpose of informing and contributing for the improvement of the researcher's professional performance in his field of action, as an artist in society that simultaneously learns and teaches. To consider the artist as "a maker not a researcher" (Frayling 1993, 2), would imply conceiving his activity isolated from the social sphere. The art-based research is perceived as the organization of communicable knowledge open to future approaches, connections and meaning elaboration, with the intention of creating new perspectives on an issue. In this study, the researcher is seen as an active participant and not as a passive observer. He has an influence on his surroundings and is influenced by others, promoting transformation in the environment that he inhabits and in himself. Knowing how these changes are fostered and how they happen takes us into the domains of knowledge and practice.

In everyday life, while working, one is often confronted with the unexpected. This requires acting in pursuit of objectives or simply observing where the actions lead. Being open to and embracing the unknown in the educational practice is seen as a fundamental attitude in the generation of new meanings and knowledge. Individual and social experience occur through and by means of the subject's own lived realities, in which discoveries provide the basis for their inter-subjective world.

> To work without knowing where one is going or might end up is a necessary condition of creation: of the generation of difference rather than the reproduction of the same. One of the counter-process that tends to block or shut down such 'artistic working' is the quest for knowledge itself, understood as a desire to reduce the strange to the familiar. (Jones 2013, 16)

Knowing is in itself an activity. The artistic work partly lies in the notion of risk taking, by which action takes place with the purpose of achieving and getting to know through transformation.

Although action is a condition for knowledge, thought and reflection are equally necessary. It is the combination between reflection and action that leads to knowledge.

"Knowledge is the link between nature, human reason and practical activity." (Spirkin 1990, 209) The practical activity, in the DA stage, relates to the educational practice. This activity is commonly viewed as the knowledge transaction between individuals. This is a narrow assumption that presupposes that some individuals are the holders and others the receptors of knowledge. In fact, knowledge is socially determined and is obtained from reality in terms of assimilated culture. The notion of reality appears here as the existence of an objective world. Therefore, cognition is perceived as the generation of a system of categories and ideas through which the process of self-generation of knowledge arises. The connection of knowledge to reality presents many levels and is developed in the course of history of human culture and in the process of development of the self. According to Spirkin (1990) "knowledge can have various forms – pre-scientific, everyday, artistic, and scientific, the latter functioning at different levels of assimilation of reality as empirical or theoretical knowledge." (210)

In the DA stage, the act of knowing takes place in the educational practice, present in all domains of life and in the study that derives from the experimentation of the drawing materials in the research activities. This form of acquiring knowledge relies on the creation of an inter-subjective world that is perceived as an important reference frame for the participants' actions, for their relations with one another and for their drawing practice. The DA stage configures two paths in this study's development: one where drawing points to a system of procedures that are related with the study of the ArtGraf Nº1 properties, which is incorporated in the experimentation process of the researcher in the DI stage; and another that moves back and forth between DO (the researcher's artistic practice) and DA (the participants' drawing practices).

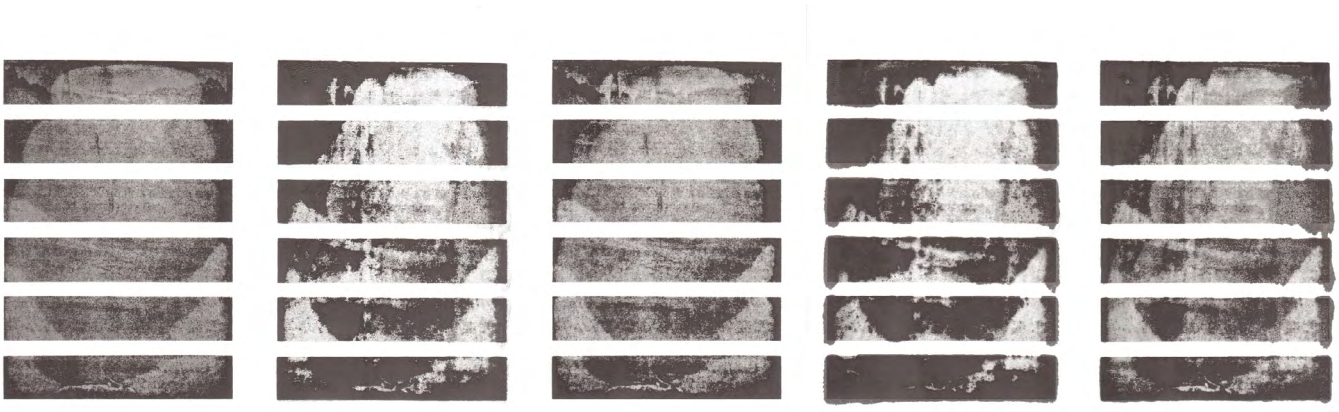


Figure 2.24 Ricardo Pistola. *Screen*, 2017.

DA constitutes the stage of potentiality and unknown. On the one hand, there is the researcher's activity, located in a gap between the industrial and the academic contexts, constrained and impelled by the calls of each context and also by the researcher's ability to move between and through them. On the other hand, there is the development of his artistic work, informed by the research findings, his interaction with the participants and his personal academic and artistic background. In this study, the experience of potentiality appears in connection with the researcher's action, which goes from his interaction with the participants to the research development and the progression in his drawing practice. In this experience of potentiality, the unknown is fundamental to the research and to the educational and the artistic practices. DA entails the creation of research paths through the knowledge acquired in the interaction with the participants, viewed as essential in the conduction of this study, since it brought about ways to explore ArtGraf Nº1 that would have not been taken into account if only the researcher's options in his own drawing practice were considered. Thus, DA is perceived as a stage of experience that allowed events of transformation in the research.

## Come and go

DA⇄DO: *Come and go*, constitutes the movements between the researcher's educational practice and his drawing practice. These two sets of practices are viewed as inter-dependent and, simultaneously, inform each other. Since this study's approach to the drawing workshops is mainly focused on how each participant uses ArtGraf Nº1, the results will be presented in the shape of a visual essay: *Report of drawing activity*.

The relations between DA and DO are subjective and related with the researcher's personal experience. As John Dewey (1980) states "every experience (…) begins with an impulsion, rather

*as* an impulsion." (58) Thus, the researcher's drawing practice is perceived as such an impulsion, revealing a movement forward and outward from DA, which is the domain of the social interaction. The impulsion from which the researcher's drawing practice emerges can be recognized as the desire to proceed in the course of his artistic practice. Therefore, impulsions are perceived as active interactions with the environment and play a key role in the recognition of the relations between DA and DO as a constant *come and go*. The tension between DA, where *draw* is a shared practice, and DF, where *draw* is conceived as *a private affair*, calls out energy that arises from the researcher's observation of the participants' action and his perception of their drawings. These energetic flows, promoted by the tensions between DA and DF, are the beginning of a process of transformation that occurs in the DO stage. Therefore, *come and go* is constituted by subjective processes of "transformation of energy into thoughtful action, through the assimilation of meanings from the background of past experiences." (Dewey 1980, 60) The subjective processes that connect DA and DO are not simply a composition of forces, they are a re-creation, in which the researcher's educational and drawing practices acquire form and substance from revisited past experiences as well as a new dimension, that informs his process of becoming.

*Come and go* addresses the researcher's educational experience and the drawing practice as an act of expression that is impermeable to generalization. The researcher's drawing practice is constantly informed by the environment that he inhabits and by the relationships established with others, through which learning occurs. These influences are only recognized after they are experienced, by reflecting upon the social interaction and its connection with the work developed. The understanding of these connections is a personal construction of meaning that attempts to reconstruct the working process willing to organize it, in order to inform the course of the researcher's action in the scope of his educational and artistic practices. However, in this study, the DO is constructed as a stage that emerges from the research practice but is located outside the academic boundaries, in order to be perceived in the artistic domain, which does not fit in the academy.

The drawing workshops carried out during this study took place in various schools. In them participated high school, Fine Arts and Architecture students as well as a few individuals whose educational background was not related to art, but had interest in drawing and developed their own drawing practice.

The selection of common patterns is the result of the participants' interaction with ArtGraf Nº1. How each participant worked with the graphite putty was based upon ideas that emerged from the

environment where the action occurred and, also, on previously acquired knowledge that informed their action. “An experience has pattern and structure, because it is not just doing and undergoing in alteration, but consists of them relationship.” (Dewey 1980, 44) Therefore, the researcher’s drawing practice understood as doing relates to the educational practice perceived as undergoing. Notwithstanding, the circumstances that interfere with the perception of the relations between doing and undergoing condition the experience. “There may be interference because of excess on the side of doing or of excess on the side of receptivity, of undergoing.” (Dewey 1980, 44) Thus, the DS: *drawing patterns*, emerge in the scope of this study with the purpose of narrowing the focus into the three most common drawing procedures used by the participants: drag, attach and pull. In fact, *drawing patterns* is the movement from the subjective relations that arise in the interaction between DA and DO towards DI, which is the stage concerned with the ArtGraf N°1 physical and mechanical properties.

## Drawing Activity Report

As previously mentioned, the approach to the drawing workshops carried out in this study is mainly focused on how each participant uses ArtGraf N°1. Therefore, the *drawing activity report* constitutes a record of the researcher's personal experience while working with the participants. It addresses the drawing activity through a visual report that does not intend to limit the perception of the subjective relations established between DA and DO. The images here presented played a key role in the connections that were established between the research, the educational and the drawing practices. Yet, these connections are not theorized and juxtaposed with the data collection, thus allowing it to be open to multiple interpretations. In this sense, the *drawing activity report* approaches the drawing practice by recognizing patterns in the action of drawing with the graphite putty, setting the basis for the next research stage: DI.

Figure 2.25

Figure 2.26

Drawing with ArtGraf N°1 invites the drawer to shape its own tool (Figure 2.25). Because this drawing material does not present a defined shape, it implies creating a tool in order to use it. Therefore, the action of modelling a tool can also be perceived as drawing, taking the drawing activity to a moment that precedes the mark making. The shapelessness of the material, which allows the drawer to create a drawing tool, can be related with the notion of potentiality, since it opens up a vast field of possibilities (Figure 2.26). By shaping the material, the drawer turns the material into a state that allows him to work with it and obtain the desire effects. This action plays a key role in the

Figure 2.27

drawing development by defining all the other actions and effects that will take place while drawing (Figure 2.27).

Drawing with a material that does not have a defined shape connects the action with the notion of training, not in the sense of achieving a result that is already known, based on previous knowledge of a tradition of drawing techniques, but rather as an experimentation process, in which the drawer manipulates ArtGraf Nº1 in order to perceive its attributes, learn how to control it and discover what he can do with it. However, the unknown and the accident are also implied in the action of drawing and, throughout the drawing activity, the drawer has to constantly deal with new circumstances by reflecting on and reformulating his own actions, turning drawing into a more bodily implicated action (Figure 2.28, 2.29).

Figure 2.28

Figure 2.29

The tools created by the drawer with the graphite putty during its use, because the material presents a low mechanical resistance, progressively loose their shape. This implicates the drawer in a process that involves constantly going back and forth, between drawing and (re)shaping the drawing tool (Figure 2.30, 2.31, 2.32).

While observing the participants' drawing practice it was noticed that the ArtGarf Nº1 was also used to cover the paper surface and turn the paper support into a base for the construction of a three-dimensional piece (Figure 2.33, 2.34). The graphite putty is here used to alter the paper's surface, changing its appearance by conferring it plasticity and three-dimensionality (Figure 2.35).

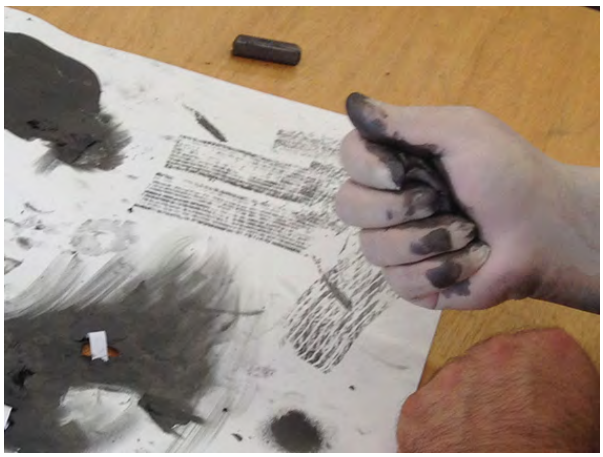


Figure 2.30

The researcher also used the graphite putty on three-dimensional pieces constructed with folded paper. Yet, these three-dimensional pieces were not created as a final result, but as a process to impress marks on the paper, which followed the construction steps and gave shape to two-dimensional compositions (Figure 2.36, 2.37). In this case, drawing is viewed as a register of actions, which makes past events visible in the generated traces.

Figure 2.31

The verb to draw comes from the Old English word *dragan*[12], which means drag. Thus, the action of dragging is intimately connected with the action of drawing. Drawing implies a physical action that results from the interaction between the drawer and the material with which the marks are obtained. In this sense, drawing can be perceived as a set of diverse actions related with mark making.

In the activities carried out, the ArtGraf N°1 characteristics were explored through a variety of actions. This turned the physical activity into an integrant part of the reflection upon the drawings and the experiments made. Therefore, in this study of the ArtGraf N°1 properties, based upon the observation of the participants' drawing practice and their drawings, it was possible to indentify the three most common drawing procedures: drag attach and pull (Figure 2.38, 2.39, 2.40, 2.41, 2.42, 2.43, 2.44, 2.45, 2.46).

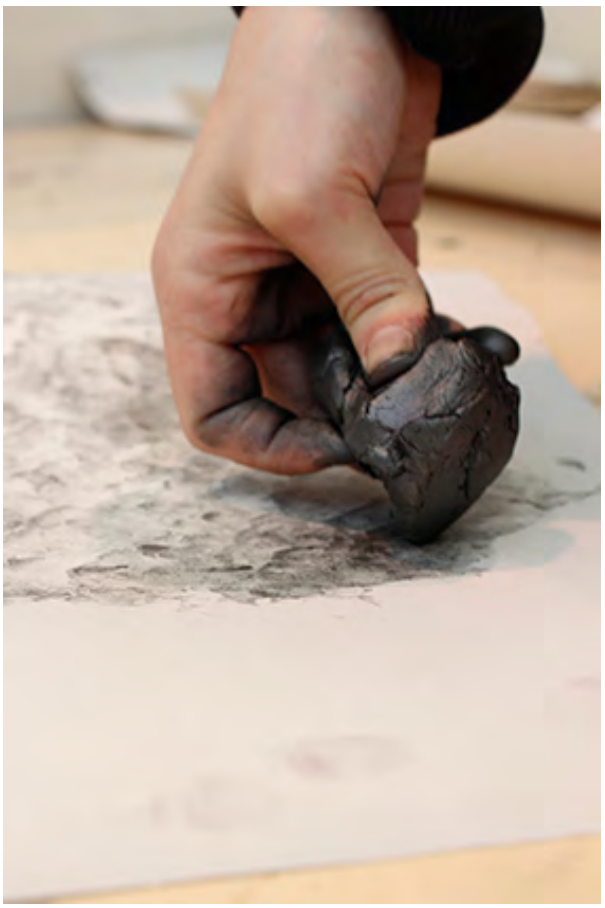


Figure 2.32

[12] Draw. (n.d.) In Online etymology dictionary. Retrieved from http://www.etymonline.com/index.php?allowed_in_frame=0&search=draw, (accessed on 3 february 2017).

Figure 2.33

Figure 2.34

Figure 2.35

Figure 2.36

Figure 2.37

Figure 2.38

Figure 2.39

Figure 2.40

Figure 2.41

Figure 2.42

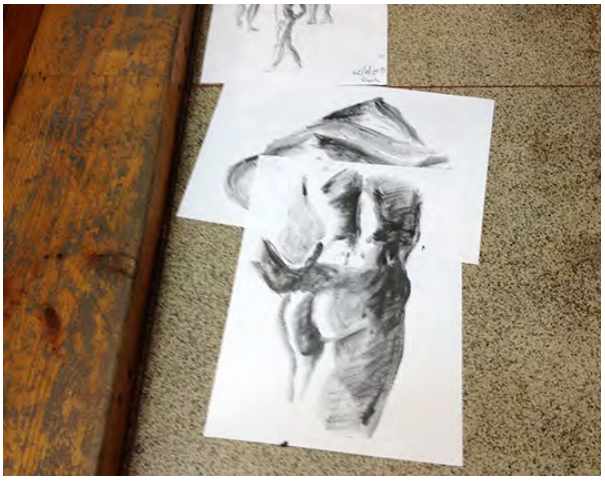


Figure 2.43

Figure 2.44

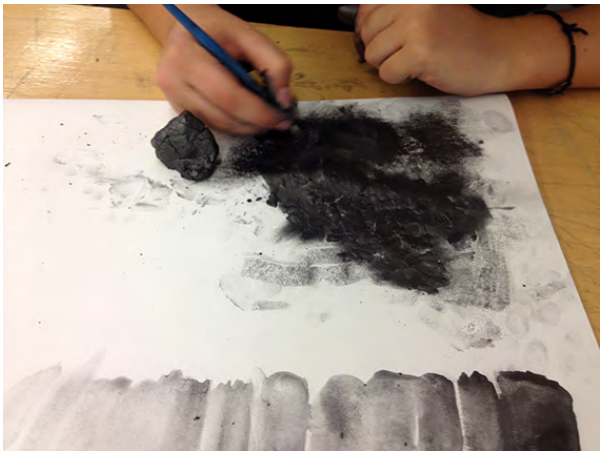


Figure 2.45

Figure 2.46

# DRAWING PATTERNS

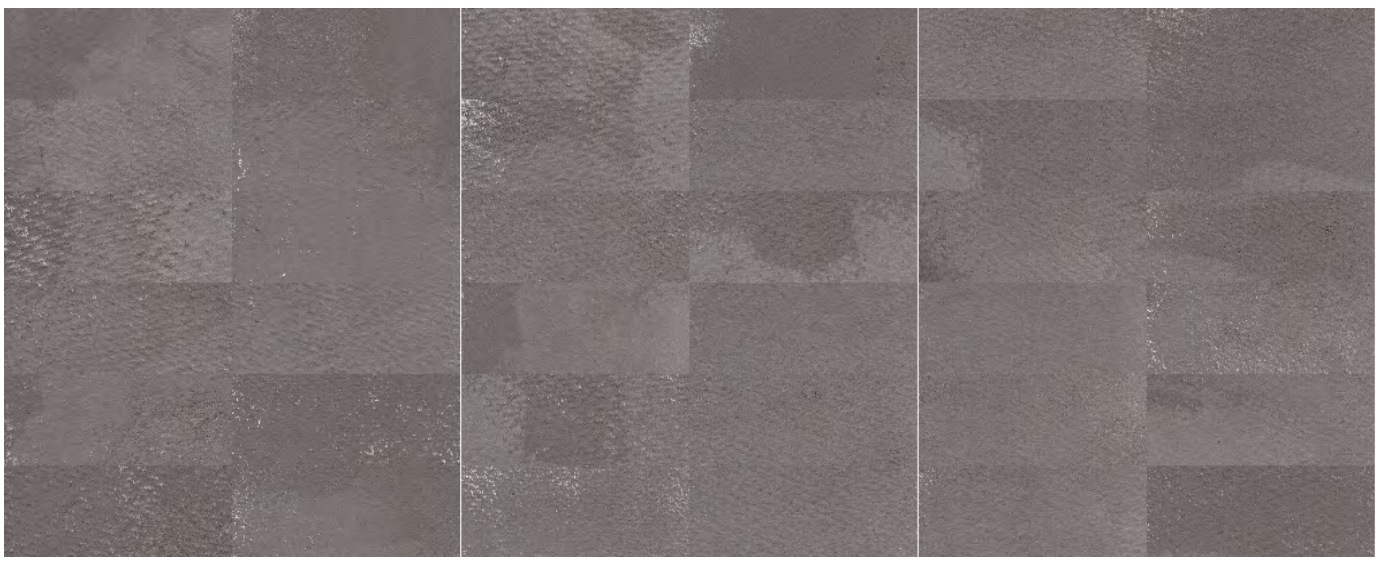


Figure 2.47 Ricardo Pistola. *Drag*, 2016.

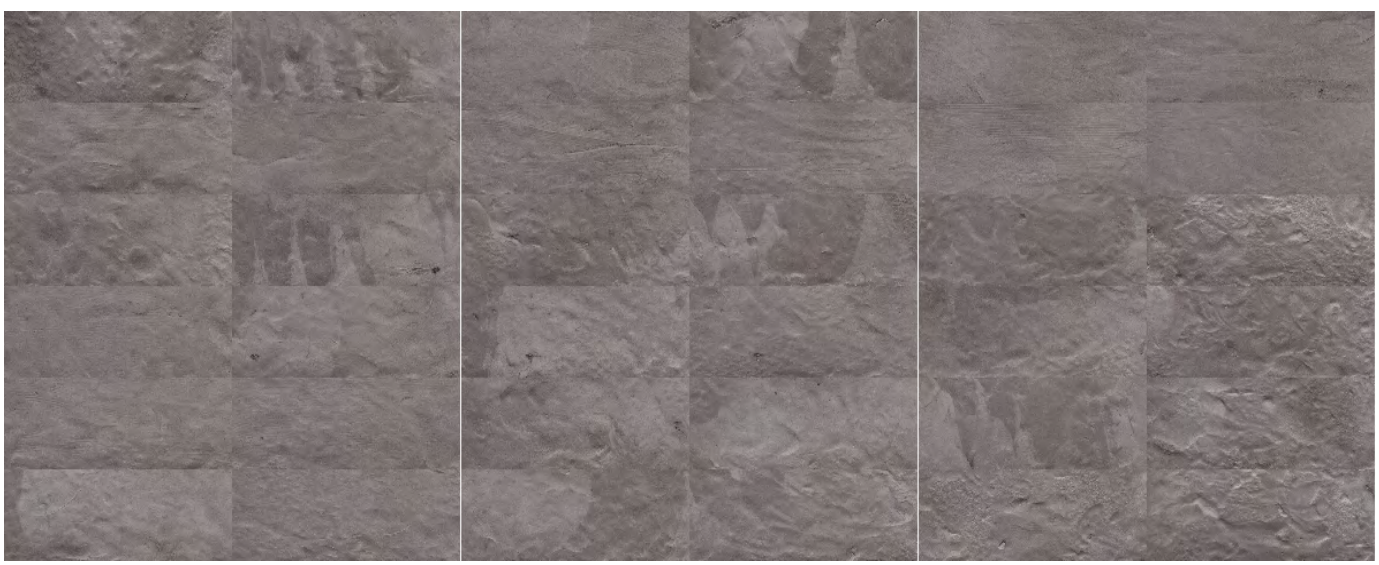


Figure 2.48 Ricardo Pistola. *Attach*, 2016.

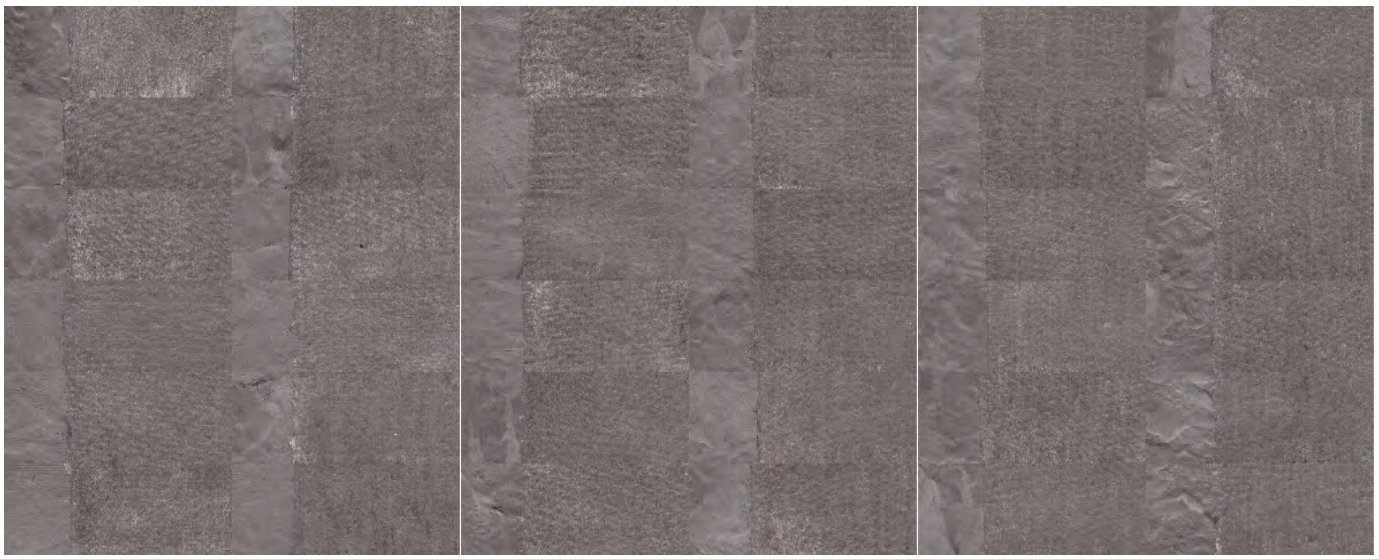


Figure 2.49 Ricardo Pistola. *Pull*, 2016.

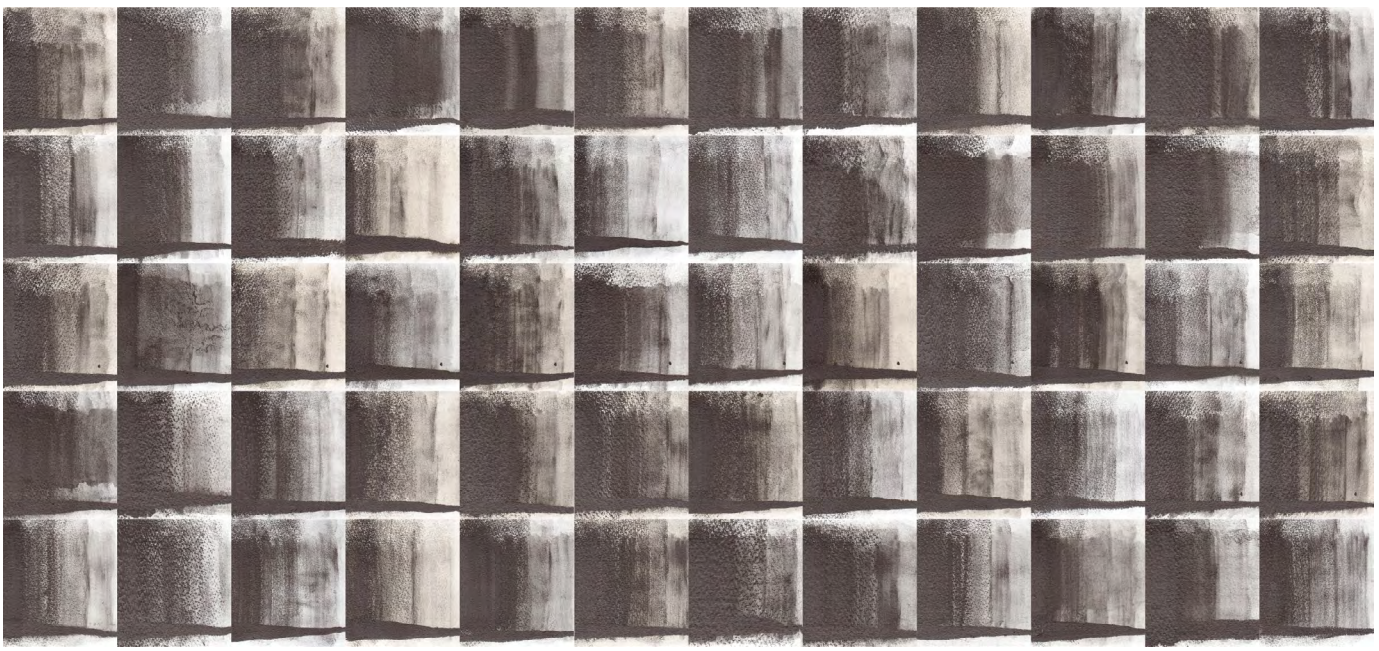


Figure 2.50 Ricardo Pistola. *Drawing Patterns #1*, 2016.

# STAGE 3: DI

**(Drawing Scenario: Experiment to Grasp)**

> Let us imagine a table, something like a dictionary, that exists only in our imagination. A dictionary can be used to justify the translation of a word X by a word Y. But are we also to call it a justification if such a table is to be looked up only in the imagination? — "Well, yes; then it is a subjective justification." — But justification consists in appealing to an independent authority — "But surely I can appeal from one memory to another. (…) Looking up a table in the imagination is no more looking up a table than the image of the result of an imagined experiment is the result of an experiment.
>
> Ludwig Wittgenstein (2008, §265)

## DRAW IN

DI (Draw In) is the stage in which the researcher's experimentation process of ArtGraf N°1 took place. In addition to the graphite putty experiments, during this study, the researcher also took interest in experimenting with ArtGraf powder (water soluble) in silkscreen printing. This technique allows printing multiples and, for this reason, complements and enhances the idea of assembling a catalogue. As previously said in the DA stage, ArtGraf powder (water soluble) was created to respond to the researcher's necessity to more accurately control the grey scales as when using ArtGraf graphite watercolour. This drawing material was developed and produced prior to the beginning of this study, however, during its development the researcher considered pertinent to use ArtGraf powder (water soluble) to produce graphite silkscreens.

In this study, DI is located in the dimension of production and autonomy[1]. DI emerges from the demands of the industrial context, in which the main goal is to obtain information about the ArtGraf N°1 physical and mechanical properties, and from the researcher's autonomy, which integrates his drawing practice in the development of this study. In the research overview DI is connected with DF (Draw from DwA), DA (Draw Along) and DO (Draw Out).[2]

The connections established between DI and DF are understood through objective processes that approach the action of drawing as the creation of fragments that allow the analyses of the material's properties. Here, the researcher's action of drawing is perceived as the conduction of experiments that enable him to draw conclusions about the ArtGraf N°1 performance indicators (adherence to

[1] Annex 3 (DwA drawing folder).
[2] Annexes 4 and 5 (DwA drawing folder).

surface, solubility, chiaroscuro modelling, opacity, transparency, mechanical resistance and permanency), pointed out by the producers and the researcher. However, the producers were not only interested in the findings of the researcher concerning the material's use, but also wanted to obtain information from a wide range of users. Thus, during the drawing workshops at the DA stage, the participants were asked to fill in an evaluation grid of the ArtGraf N°1 properties. These quantitative results are here presented as a snapshot of quantitative data because they were not subjected to categorization in the study of ArtGraf N°1. This decision was based on the fact that the short duration of the drawing workshops would condition the results, in the sense that the participants would have needed more time to experiment the graphite putty and to reflect upon their experiences, in order to fill in the grid more accurately. However, the data generated by the evaluation grid played a key role in the researcher's reflection upon his experiments and is systematically presented, in accordance and/ or in disagreement with his perception of the ArtGraf N°1 characteristics.

Beyond the relationship that was established with the quantitative data, DI relates to DA through a crossed relation[3] presented in the previous stage DA as the DS: *drawing patterns*, which resulted from the researcher's observation of the participants' drawing practice. In the recognition of patterns of action, three main drawing procedures were identified and brought into focus in the researcher's experiments: drag, attach and pull (extract). Nevertheless, in order to explore ArtGraf N°1's characteristics (adherence to surface, mechanical resistance, chiaroscuro modelling, solubility, opacity, transparency and permanency) these three drawing procedures were deployed in six main procedures presented in the DS: experiment to grasp:

1. (R) Roll a cylindrical piece of ArtGraf N°1 on the paper surface;
2. (D) Drag ArtGraf N°1 on the paper surface;
3. (W) Drag a wet brush over the procedures R and D;
4. (A) Attach pieces of ArtGraf N°1 to the paper surface;
5. (M) Extract the procedure A with a metal point;
6. (E) Erase the procedures R and D.

Once these six procedures were set as a basis for the researcher's drawing approach, the experimentation became a process of repetition. Here *repetition* is understood as that which "changes nothing in the object repeated, but does change something in the mind which contemplates it." (Hume, cited in Deleuze 2001, 70)

Thus, repetition in the context of experimentation leads the action of drawing into the domain of

[3] Annex 4 (DwA drawing folder).

subjectivity and turns it into a qualitative approach. It is possible to repeat a drawing procedure; however, the action takes place in another time. In the notion of temporality, drawing is assumed as an action that occurs in a specific moment in time and cannot be repeated in the sense that, in another moment, the drawer is no longer the same. This recalls Deleuze, when he argues that:

In considering repetition in the object, we remain within the conditions which make possible an idea of repetition. But in considering the change in the subject, we are already beyond these conditions, confronting the general form of difference. (Deleuze 2001, 71)

In the scope of this study, the Artgraf N°1 attributes are understood through the researcher's personal experience, which informs his drawing practice, and through the information obtained from the participants. To present the work developed while experimenting ArtGraf N°1, a catalogue of the selected drawing procedures was made (DS: *experiment to grasp*) as well as reports of the results obtained by the researcher. Thus, the outcomes here presented relate to the researcher's drawing experience with ArtGraf N°1. In this sense, and taking into account that each subject interacts differently with the graphite putty, putting it to use in a various number of ways, it seems very limited and even inappropriate to expose or propose definite rules for the uses of ArtGraf N°1, assuming that everyone will follow the same procedures and achieve the same results. Alternatively, together with this dissertation, a sample of ArtGraf N°1 is provided to the reader, so that he can experiment with it, thus creating an opportunity for new findings and a space for further discussion.

The relations established between DI and DO are set in two directions that simultaneously inform each stage. On the one hand, DI towards DO, which is perceived as a composition process in which the experiments to grasp the ArtGraf N°1 characteristics inform its further use in the DO stage. On the other hand, DO towards DI, understood as a decomposition process in which fragments of the works developed in the DO stage are subject to analyses and integrated in the experimentation process. Beyond these two relations established between DI and DO stages, there is another movement in the research path, presented under the DO stage, the DS: *drawing propositions*, which represents the researcher's exit from the research in the industrial and academic fields towards his artistic practice. Thus, *drawing propositions* are sometimes referenced in the reports on the ArtGraf N°1 characteristics, in the DI stage, since they constitute a drawing series that emerged from the graphite putty's experimentation process in the DS: *experiment to grasp*. *Drawing propositions* go further than the procedures selected to explore ArtGraf N°1's characteristics in this study. However, they play a central role in the findings on the graphite putty's attributes, since they cover a wider range of drawing procedures.

## DRAW IN(TO) DwA

*Draw In* exhibits the movements between *draw* and *authority* through the intermittence implied in the DwA: *Draw with(out) Authority* process. Therefore, the movements that take place between *with* or *without authority* are recognized in the interactive relations between the participants and the research. *To draw*, in this stage (DI), is ruled by the notion of *authority* understood as the demands of the industrial context in which this study was held and, also, as the researcher's autonomy in the conduction of this study and in his drawing practice. At this point, *authority* is unveiled as an instrument of domination that acts upon the drawing activity, directing the experiments made by the researcher in order to grasp ArtGraf N°1's properties by placing the action in the dimension of production and of availability. Production relates to the obtainment of information about the characteristics of ArtGraf N°1, with the purpose of being used and disseminated by the Viarco factory, while availability corresponds to the conditions that were given to develop this study.

These two dimensions play a fundamental role in the DS: *experiment to grasp*. DwA acts upon this drawing scenario as *Draw with Authority*, setting the conditions to develop the experimentation process of ArtGraf N°1 under the proposition *experiment to grasp*. Thus, *authority* is played out through this proposition, implied in the action of drawing as a means to achieve results related with the use of ArtGraf N°1. However, the scope of this study is circumscribed to the use of ArtGraf N°1 on papers supplied by St. Cuthberts Mill factory.

# EXPERIMENT TO GRASP

(R) Roll a cylindrical piece of ArtGraf Nº1 on the paper surface:

Figure 3.1 R001.

Figure 3.2 R002.

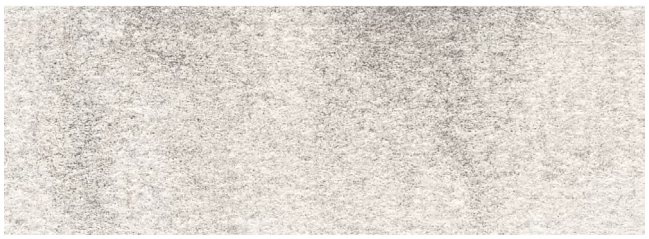


Figure 3.3 R003.

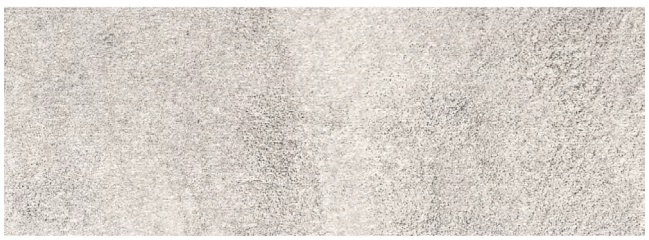


Figure 3.4 R004.

Figure 3.5 R005.

Figure 3.6 R006.

Figure 3.7 R007.

Figure 3.8 R008.

Figure 3.9 R009.

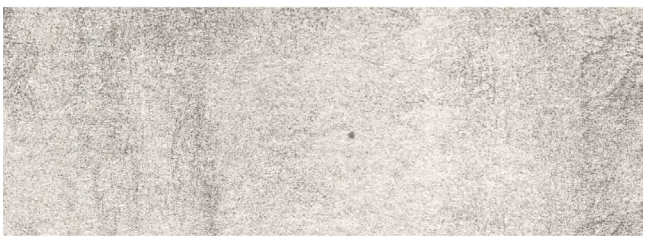


Figure 3.10 R010.

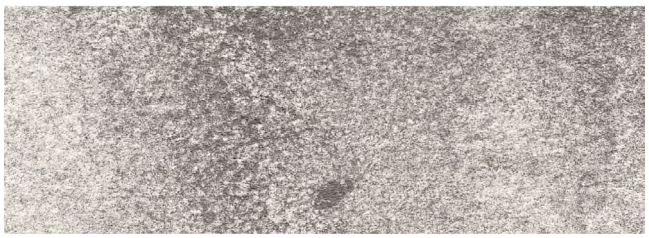


Figure 3.11 R011.

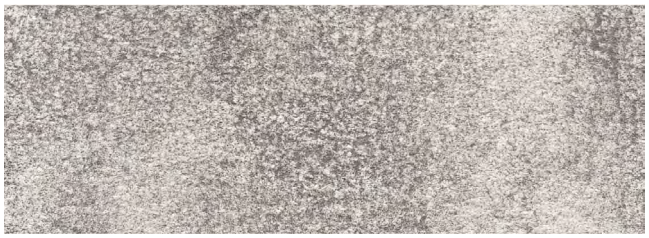


Figure 3.12 R012.

Figure 3.13 R013.

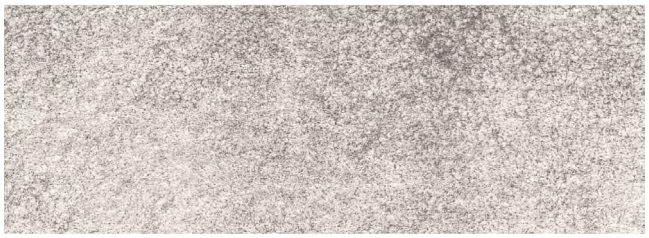


Figure 3.14 R014.

Figure 3.15 R015.

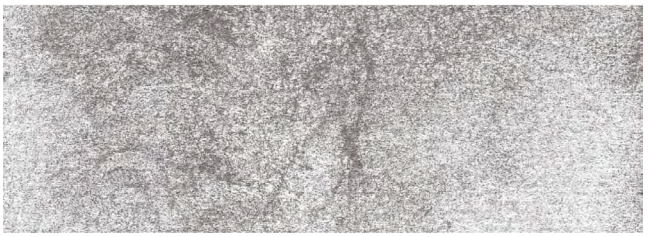


Figure 3.16 R016.

Figure 3.17 R017.

Figure 3.18 R018.

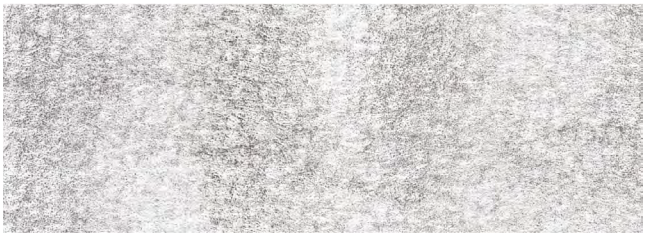


Figure 3.19 R019.

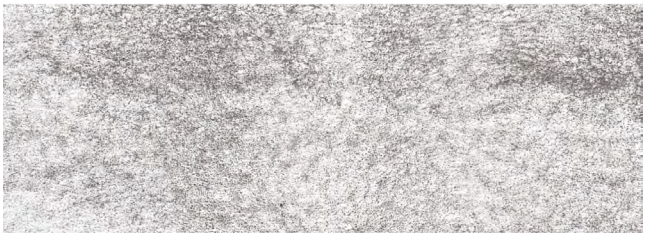


Figure 3.20 R020.

Figure 3.21 R021.

Figure 3.22 R022.

Figure 3.23 R023.

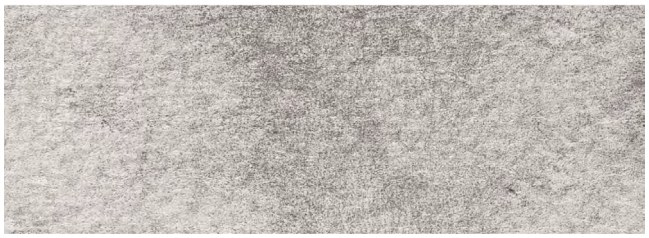


Figure 3.24 R024.

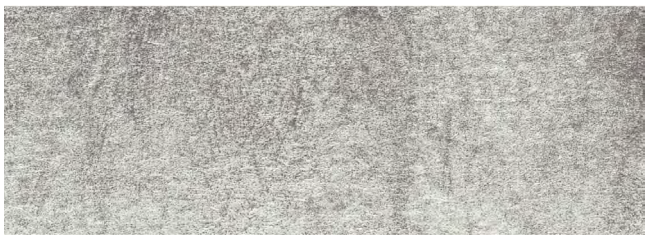


Figure 3.25 R025.

Figure 3.26 R026.

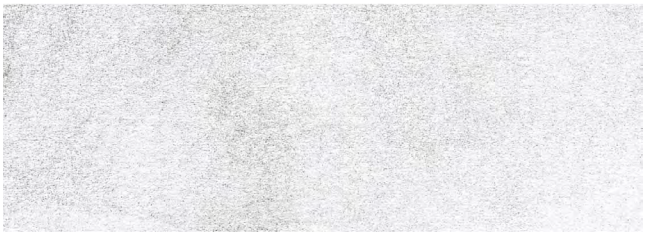


Figure 3.27 R027.

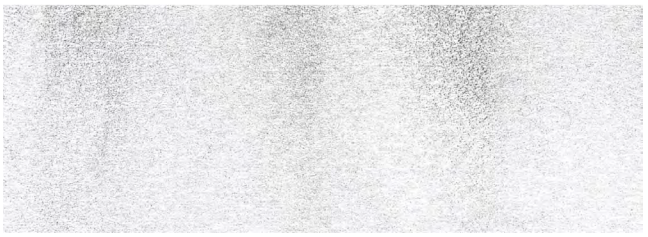


Figure 3.28 R028.

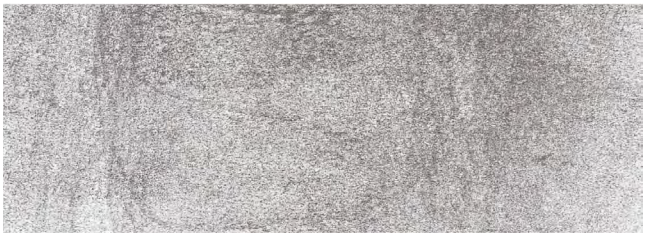


Figure 3.29 R029.

Figure 3.30 R030.

Figure 3.31 R031.

Figure 3.32 R032.

Figure 3.33 R033.

Figure 3.34 R034.

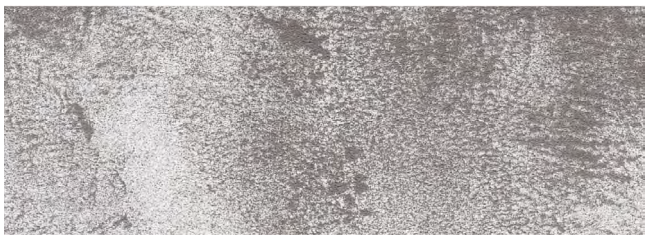


Figure 3.35 R035.

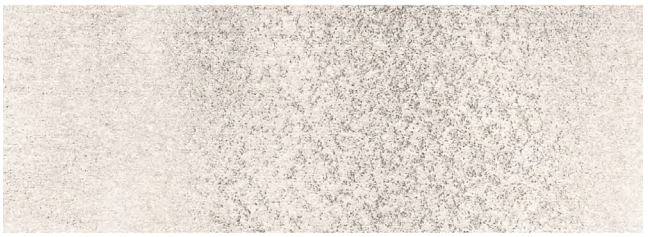


Figure 3.36 R036.

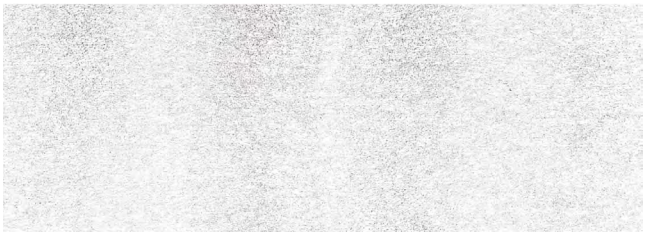


Figure 3.37 R037.

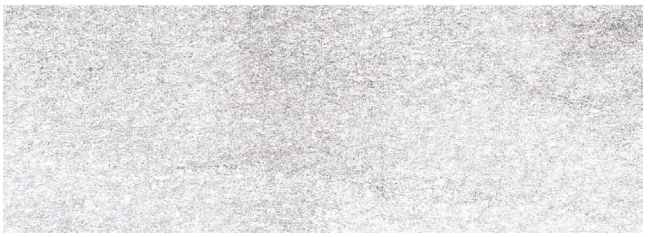


Figure 3.38 R038.

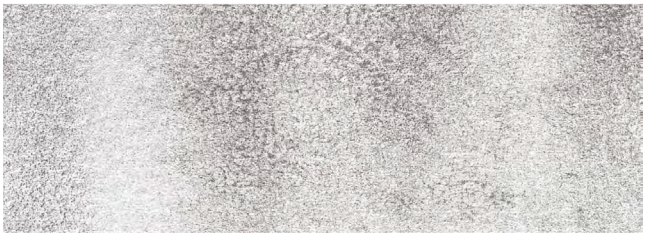


Figure 3.39 R039.

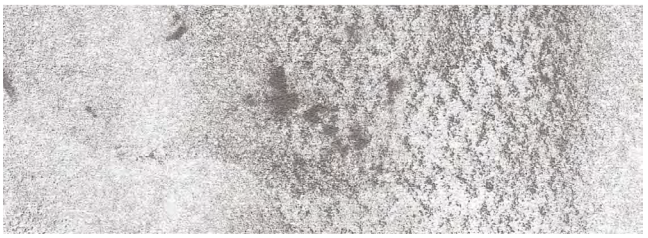


Figure 3.40 R040.

Figure 3.41 R041.

Figure 3.42 R042.

Figure 3.43 R043.

Figure 3.44 R044.

Figure 3.45 R045.

Figure 3.46 R046.

Figure 3.47 R047.

Figure 3.48 R048.

Figure 3.49 R049.

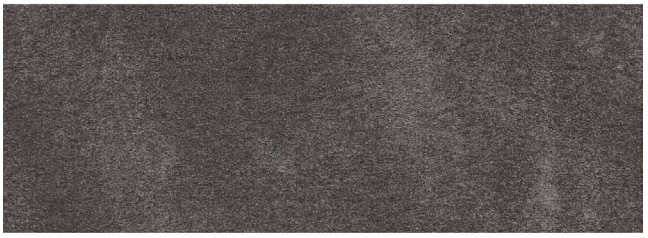


Figure 3.50 R050.

Figure 3.51 R051.

Figure 3.52 R052.

Figure 3.53 R053.

Figure 3.54 R054.

Figure 3.55 R055.

Figure 3.56 R056.

Figure 3.57 R057.

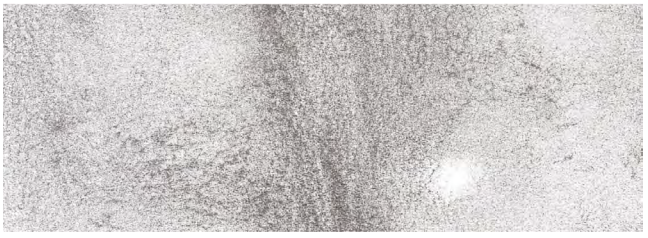


Figure 3.58 R058.

Figure 3.59 R059.

Figure 3.60 R060.

Figure 3.61 R061.

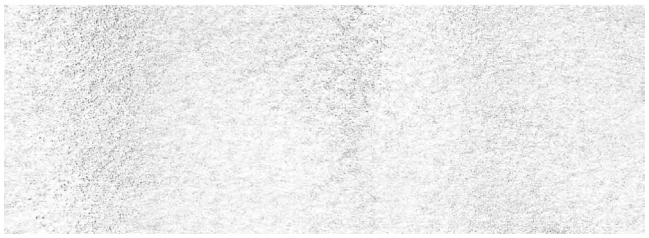


Figure 3.62 R062.

Figure 3.63 R063.

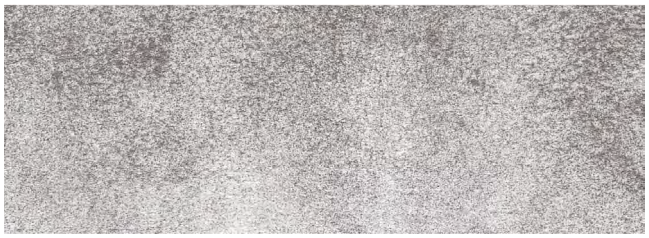


Figure 3.64 R064.

Figure 3.65 R065.

Figure 3.66 R066.

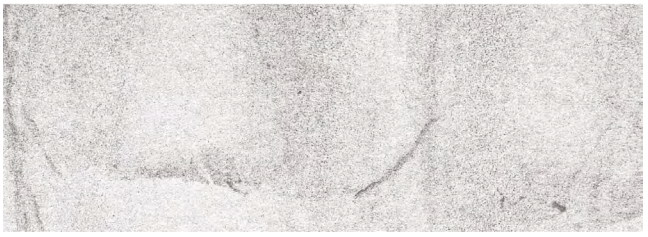


Figure 3.67 R067.

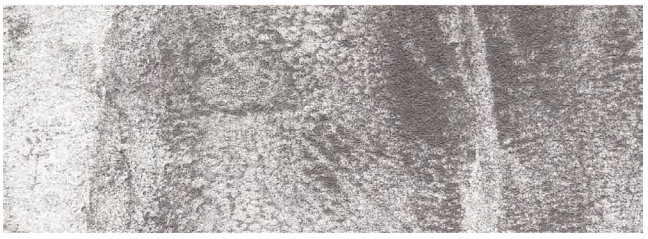


Figure 3.68 R068.

Figure 3.69 R069.

Figure 3.70 R070.

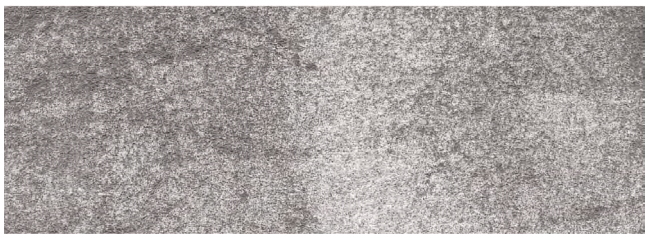


Figure 3.71 R071.

Figure 3.72 R072.

(D) Drag ArtGraf N°1 on the paper surface:

Figure 3.73 D001.

Figure 3.74 D002.

Figure 3.75 D003.

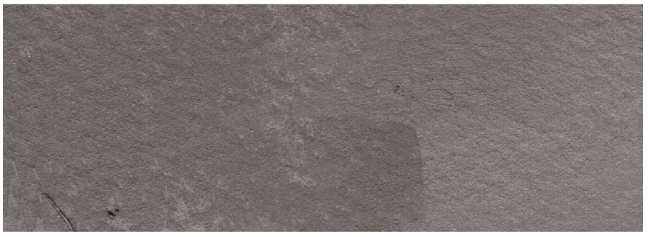


Figure 3.76 D004.

Figure 3.77 D005.

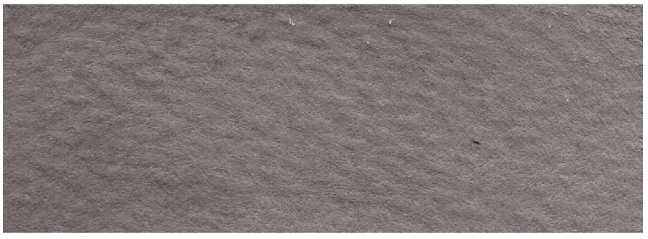


Figure 3.78 D006.

Figure 3.79 D007.

Figure 3.80 D008.

Figure 3.81 D009.

Figure 3.82 D010.

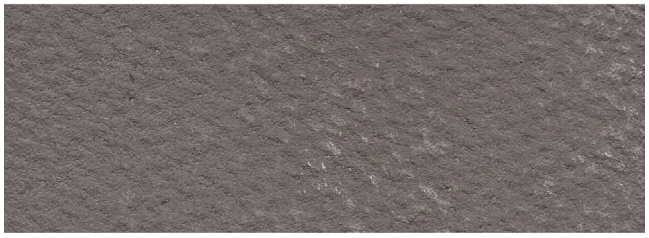


Figure 3.83 D011.

Figure 3.84 D012.

Figure 3.85 D013.

Figure 3.86 D014.

Figure 3.87 D015.

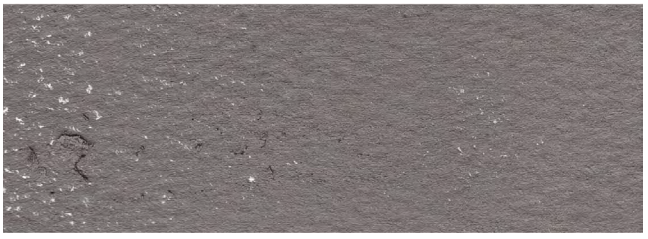


Figure 3.88 D016.

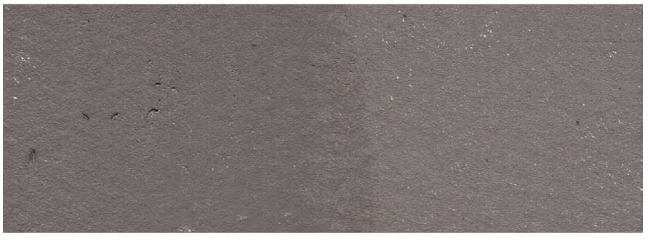


Figure 3.89 D017.

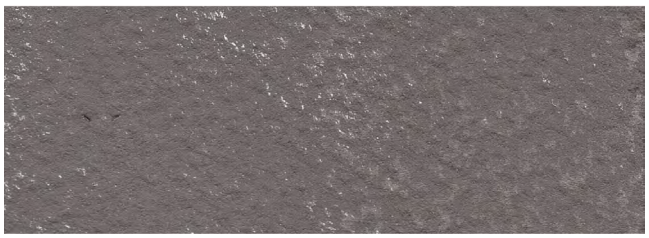
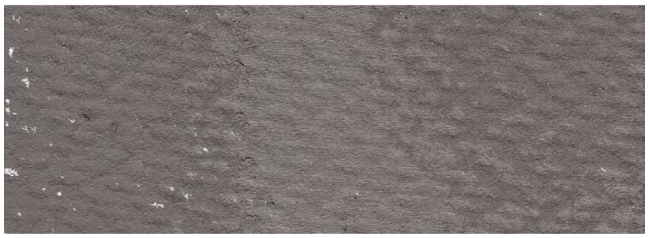


Figure 3.90 D018.



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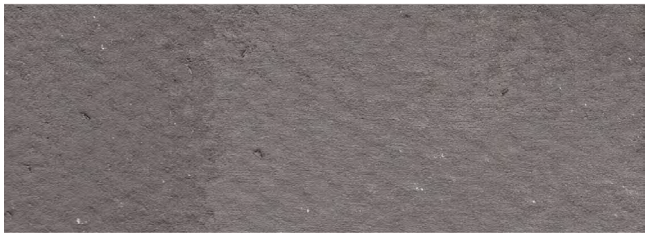
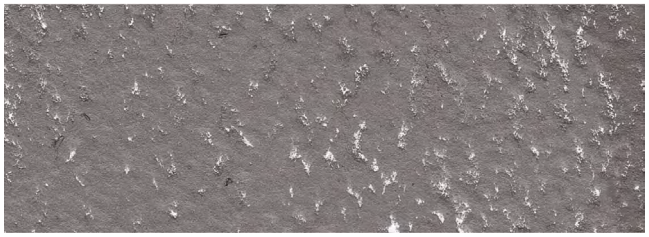


Figure 3.92 D020.

Figure 3.93 D021.



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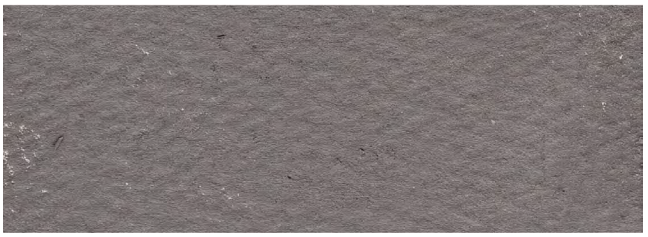


Figure 3.95 D023.

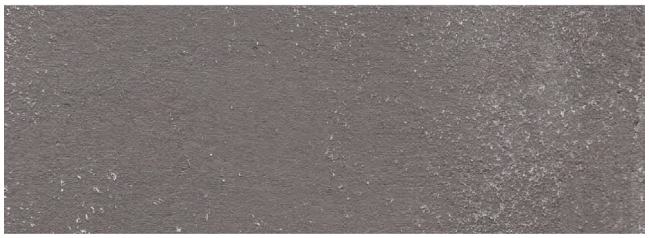
Figure 3.96 D024.

Figure 3.97 D025.

Figure 3.98 D026.

Figure 3.99 D027.

Figure 3.100 D028.



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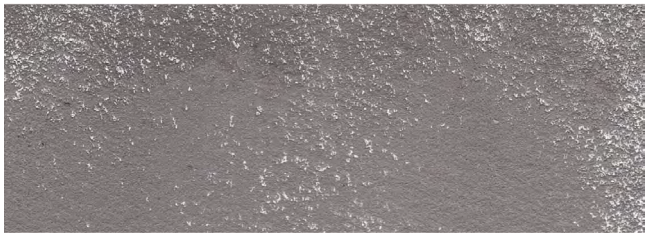


Figure 3.102 D030.

Figure 3.103 D031.

Figure 3.104 D032.

Figure 3.105 D033.

Figure 3.106 D034.

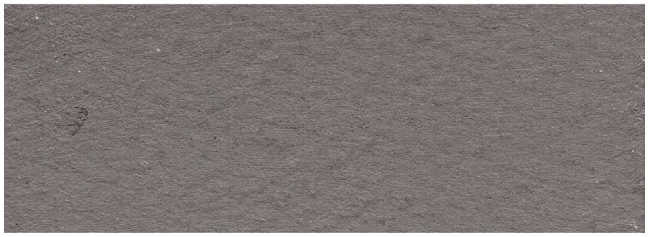
Figure 3.107 D035.

Figure 3.108 D036.

Figure 3.109 D037.

Figure 3.110 D038.

Figure 3.111 D039.



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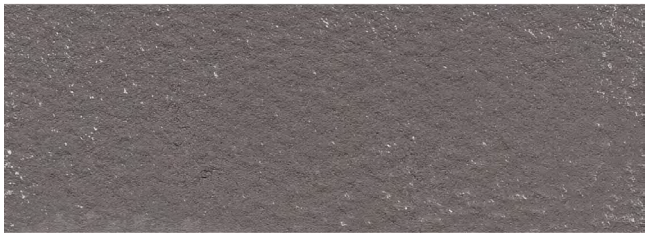


Figure 3.113 D041.

Figure 3.114 D042.

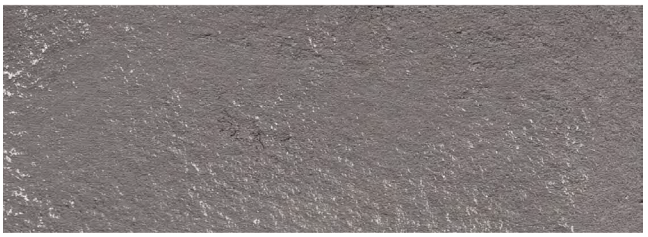


Figure 3.115 D043.

Figure 3.116 D044.

Figure 3.117 D045.

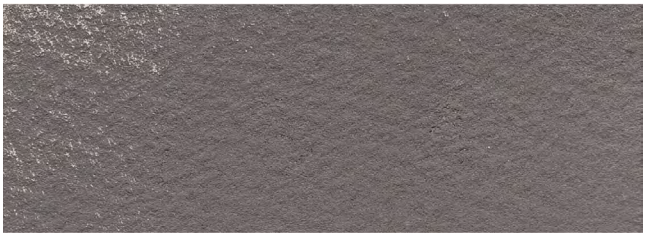


Figure 3.118 D046.

Figure 3.119 D047.

Figure 3.120 D048.

Figure 3.121 D049.

Figure 3.122 D050.

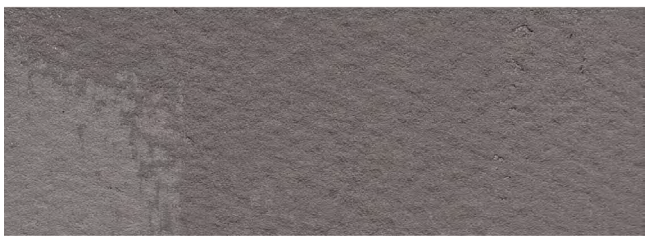


Figure 3.123 D051.

Figure 3.124 D052.

Figure 3.125 D053.

Figure 3.126 D054.

Figure 3.127 D055.

Figure 3.128 D056.

Figure 3.129 D057.

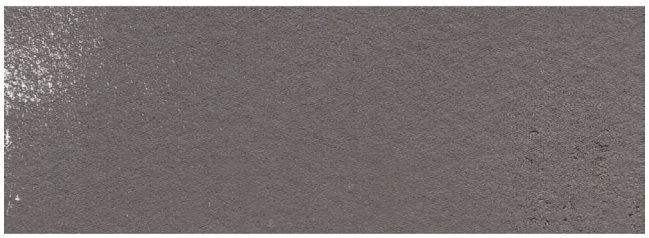


Figure 3.130 D058.

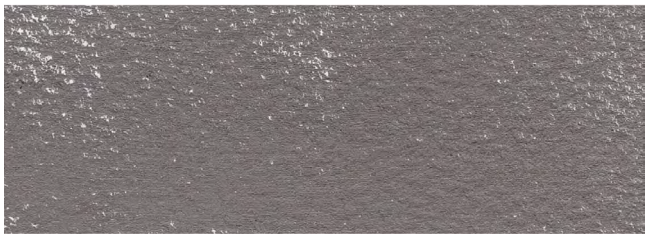


Figure 3.131 D059.

Figure 3.132 D060.

Figure 3.133 D061.

Figure 3.134 D062.

Figure 3.135 D063.

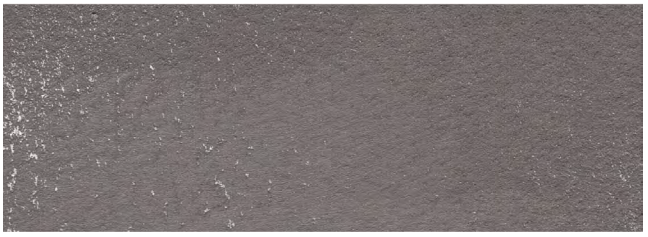


Figure 3.136 D064.

Figure 3.137 D065.

Figure 3.138 D066.

Figure 3.139 D067.

(W) Drag a wet brush over the procedures R and D:

Figure 3.140 D068.

Figure 3.141 D069.

Figure 3.142 D070.

Figure 3.143 D071.

Figure 3.144 D072.

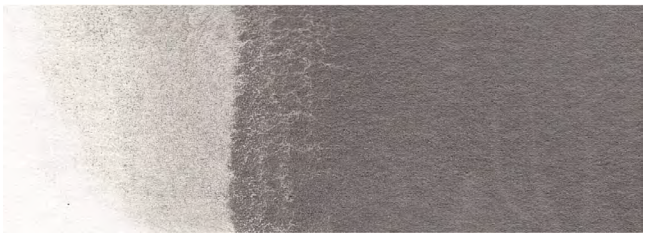


Figure 3.145 W001.

Figure 3.146 W002.

Figure 3.147 W003.

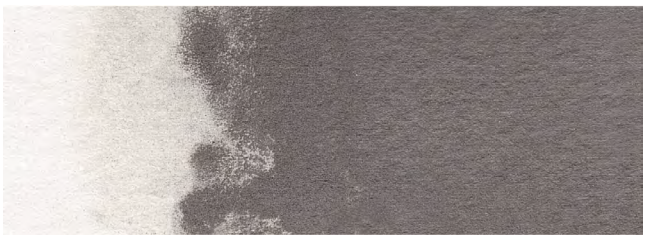


Figure 3.148 W004.

Figure 3.149 W005.

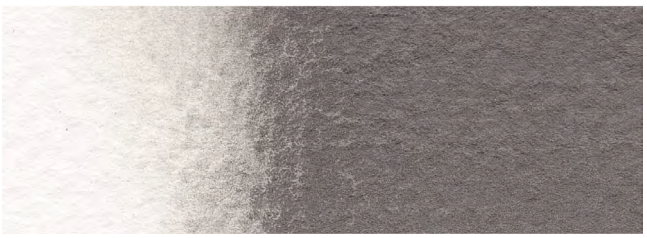


Figure 3.150 W006.

Figure 3.151 W007.

Figure 3.152 W008.

Figure 3.153 W009.

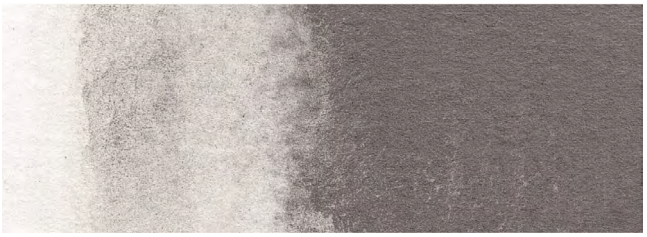


Figure 3.154 W010.

Figure 3.155 W011.

Figure 3.156 W012.

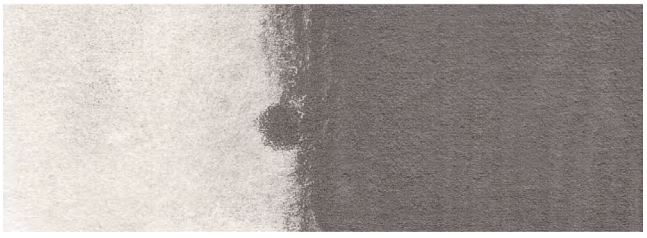


Figure 3.157 W013.

Figure 3.158 W014.

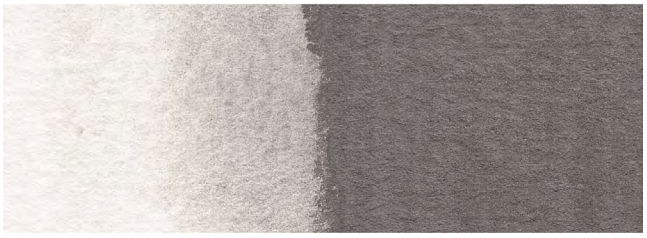


Figure 3.159 W015.

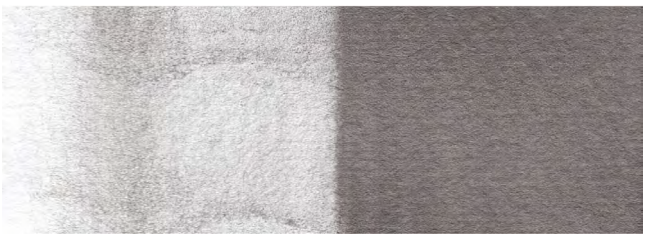


Figure 3.160 W016.

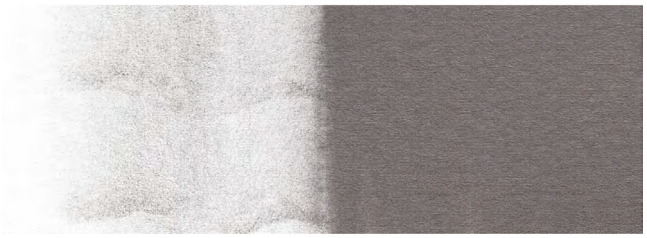


Figure 3.161 W017.

Figure 3.162 W018.

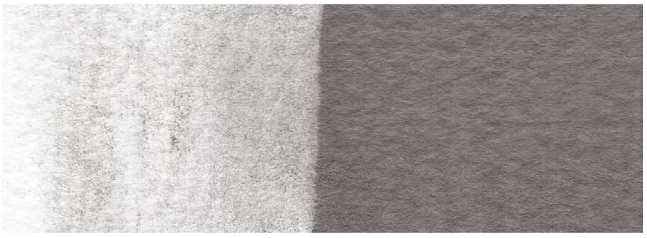
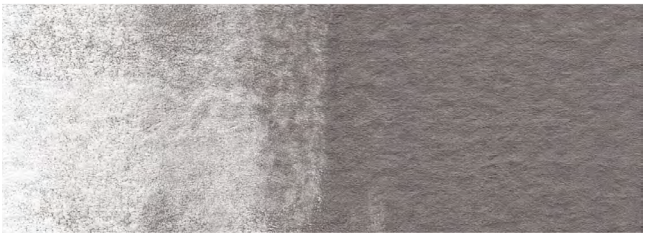


Figure 3.163 W019.



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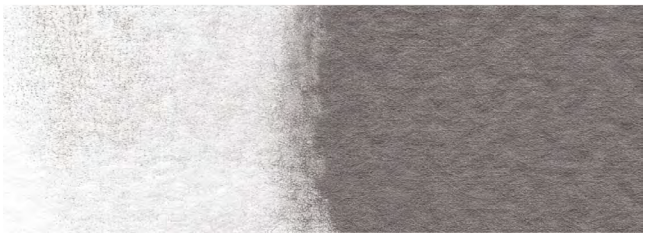

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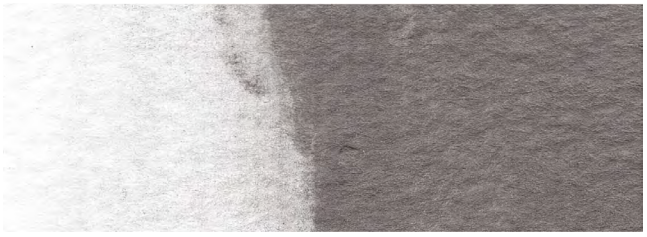


Figure 3.166 W022.

Figure 3.167 W023.

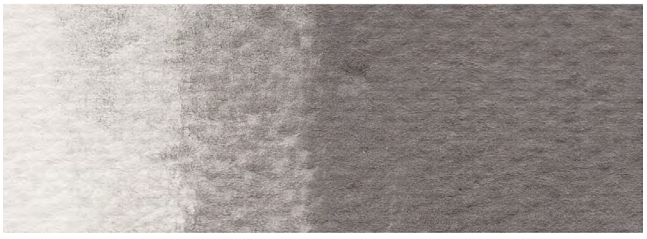


Figure 3.168 W024.

Figure 3.169 W025.

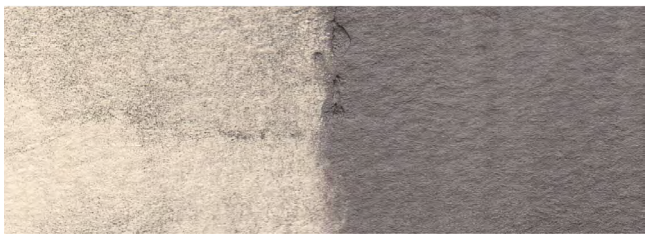


Figure 3.170 W026.

Figure 3.171 W027.

Figure 3.172 W028.

Figure 3.173 W029.

Figure 3.174 W030.

Figure 3.175 W031.

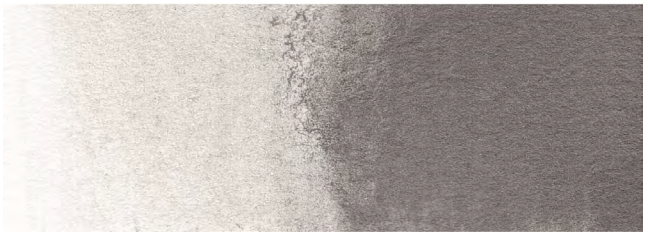


Figure 3.176 W032.

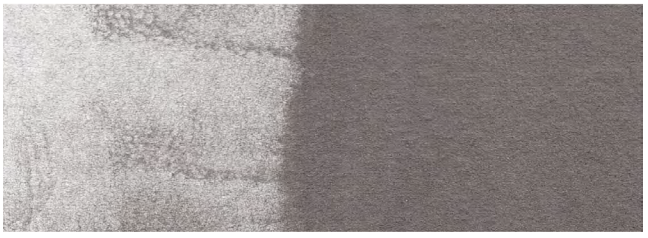


Figure 3.177 W033.

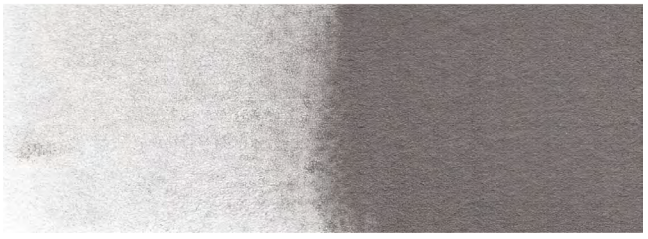


Figure 3.178 W034.

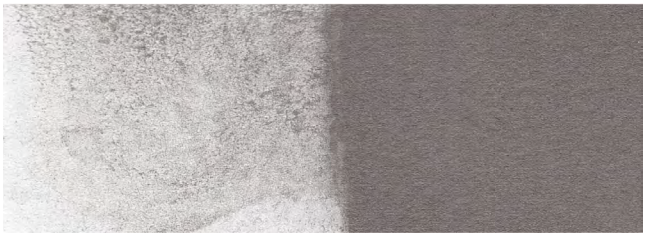


Figure 3.179 W035.

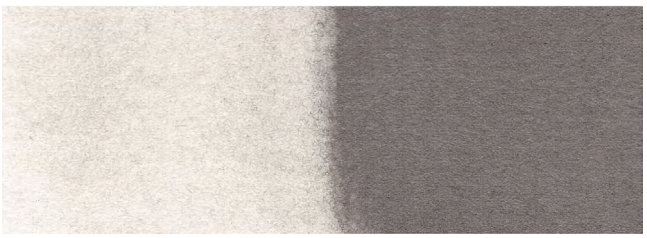


Figure 3.180 W036.

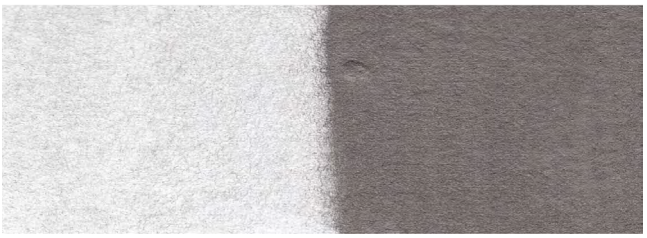


Figure 3.181 W037.

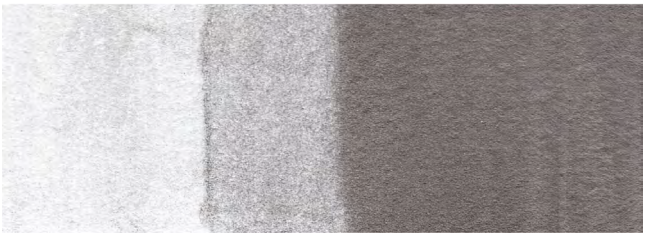


Figure 3.182 W038.

Figure 3.183 W039.

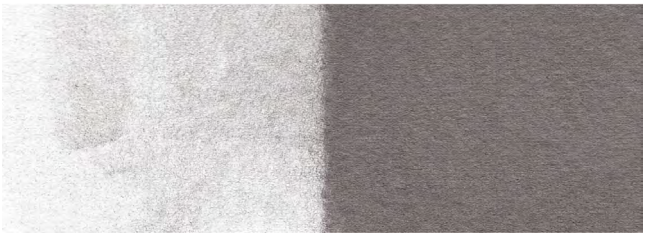


Figure 3.184 W040.

Figure 3.185 W041.

Figure 3.186 W042.

Figure 3.187 W043.

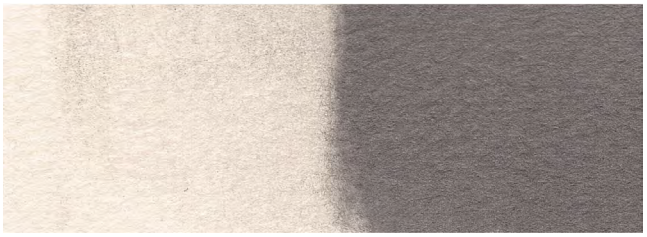


Figure 3.188 W044.

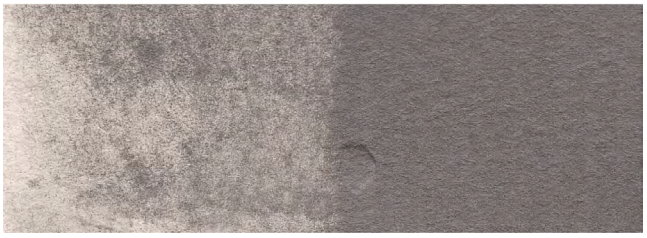


Figure 3.189 W045.

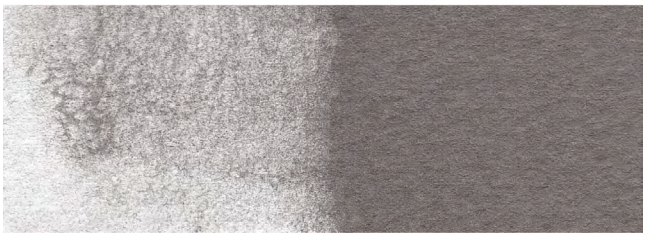
Figure 3.190 W046.

Figure 3.191 W047.

Figure 3.192 W048.

Figure 3.193 W049.

Figure 3.194 W050.



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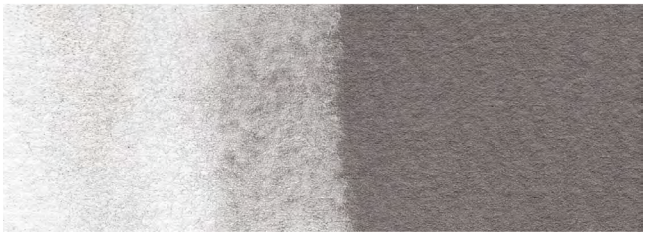

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Figure 3.197 W053.

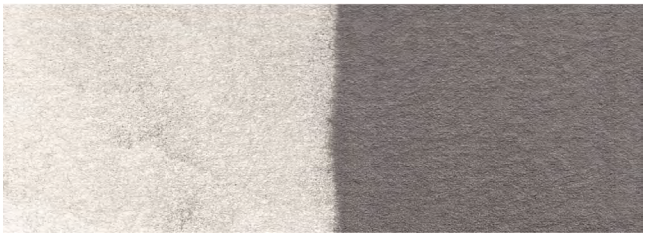

Figure 3.198 W054.

Figure 3.199 W055.

Figure 3.200 W056.

Figure 3.201 W057.

Figure 3.202 W058.

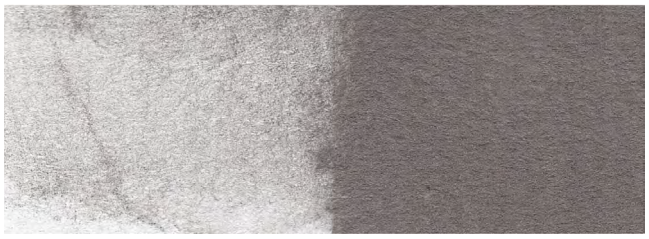

Figure 3.203 W059.

Figure 3.204 W060.

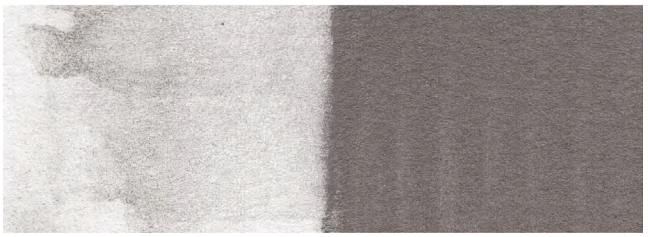

Figure 3.205 W061.

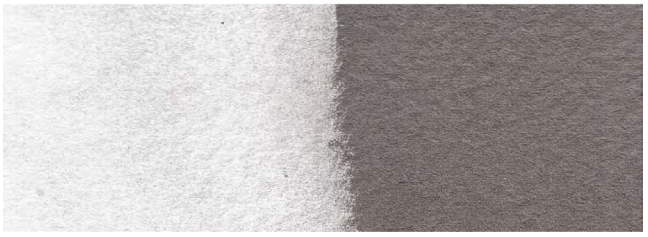

Figure 3.206 W062.

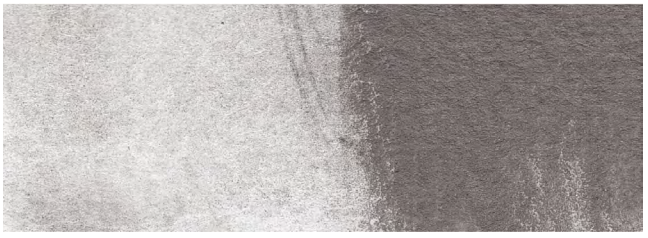

Figure 3.207 W063.

Figure 3.208 W064.

Figure 3.209 W065.

Figure 3.210 W066.

Figure 3.211 W067.

Figure 3.212 W068.

Figure 3.213 W069.

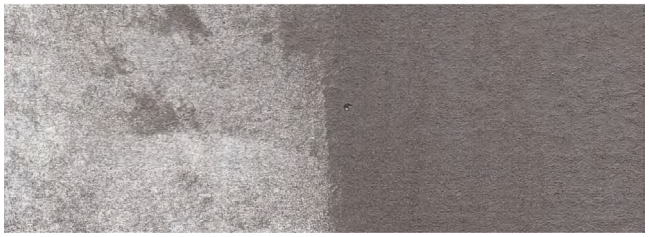

Figure 3.214 W070.

Figure 3.215 W071.

Figure 3.216 W072.

(A) Attach pieces of ArtGraf Nº1 to the paper surface:

Figure 3.217 A001.

Figure 3.218 A002.

Figure 3.219 A003.

Figure 3.220 A004.

Figure 3.221 A005.

Figure 3.222 A006.

Figure 3.223 A007.

Figure 3.224 A008.

Figure 3.225 A009.

Figure 3.226 A010.

Figure 3.227 A011.

Figure 3.228 A012.

Figure 3.229 A013.

Figure 3.230 A014.

Figure 3.231 A015.

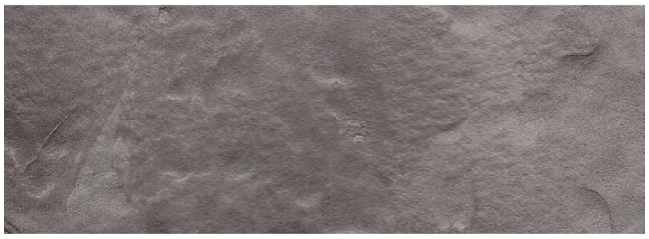

Figure 3.232 A016.

Figure 3.233 A017.

Figure 3.234 A018.

Figure 3.235 A019.

Figure 3.236 A020.

Figure 3.237 A021.

Figure 3.238 A022.

Figure 3.239 A023.

Figure 3.240 A024.

Figure 3.241 A025.

Figure 3.242 A026.

Figure 3.243 A027.

Figure 3.244 A028.

Figure 3.245 A029.

Figure 3.246 A030.

Figure 3.247 A031.

Figure 3.248 A032.

Figure 3.249 A033.

Figure 3.250 A034.

Figure 3.251 A035.

Figure 3.252 A036.

Figure 3.253 A037.

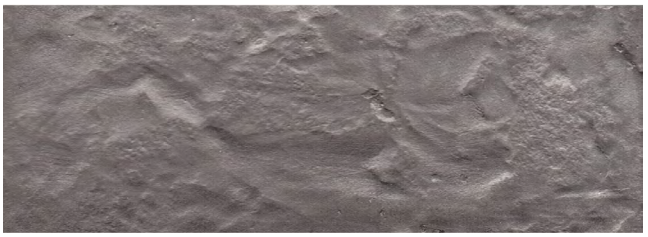

Figure 3.254 A038.

Figure 3.255 A039.

Figure 3.256 A040.

Figure 3.257 A041.

Figure 3.258 A042.

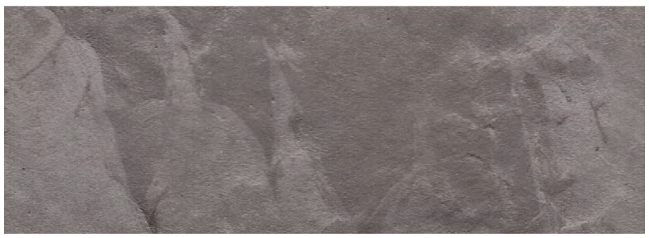

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Figure 3.260 A044.

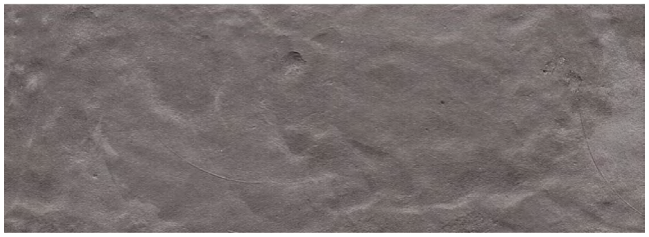

Figure 3.261 A045.

Figure 3.262 A046.

Figure 3.263 A047.

Figure 3.264 A048.

Figure 3.265 A049.

Figure 3.266 A050.

Figure 3.267 A051.

Figure 3.268 A052.

Figure 3.269 A053.

Figure 3.270 A054.

Figure 3.271 A055.

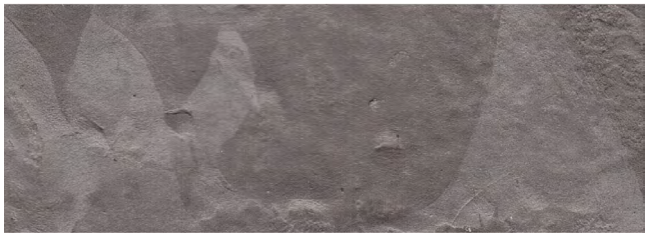

Figure 3.272 A056.

Figure 3.273 A057.

Figure 3.274 A058.

Figure 3.275 A059.

Figure 3.276 A060.

Figure 3.277 A061.

Figure 3.278 A062.

Figure 3.279 A063.

Figure 3.280 A064.

Figure 3.281 A065.

Figure 3.282 A066.

Figure 3.283 A067.

Figure 3.284 A068.

Figure 3.285 A069.

Figure 3.286 A070.

Figure 3.287 A071.

Figure 3.288 A072.

(M) Extract the procedure A with a metal point:

Figure 3.289 M001.

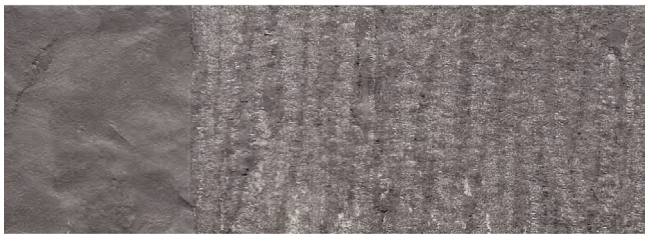

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Figure 3.291 M003.

Figure 3.292 M004.

Figure 3.293 M005.

Figure 3.294 M006.

Figure 3.295 M007.

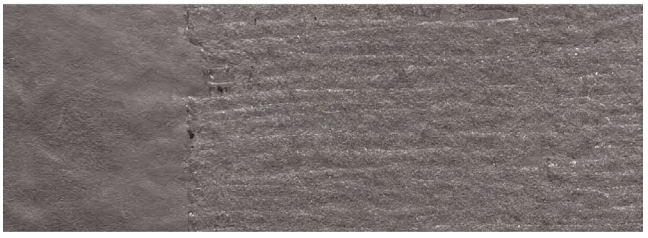

Figure 3.296 M008.

Figure 3.297 M009.

Figure 3.298 M010.

Figure 3.299 M011.

Figure 3.300 M012.

Figure 3.301 M013.

Figure 3.302 M014.

Figure 3.303 M015.

Figure 3.304 M016.

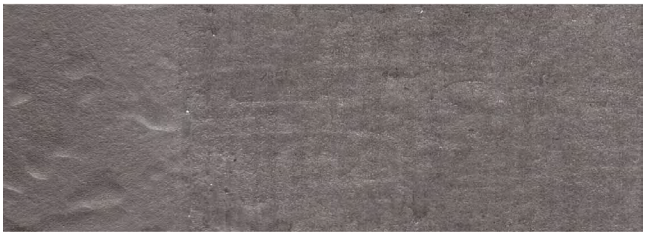

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Figure 3.306 M018.

Figure 3.307 M019.

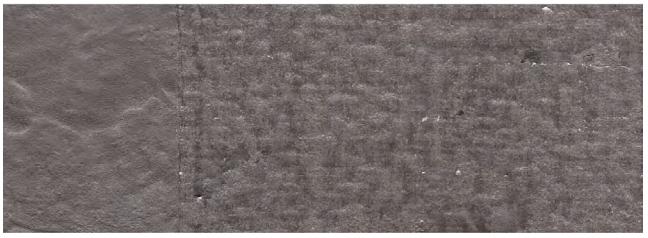

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Figure 3.309 M021.

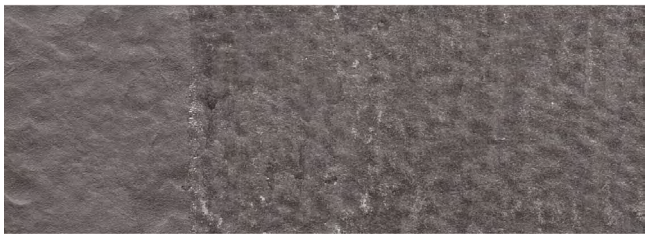

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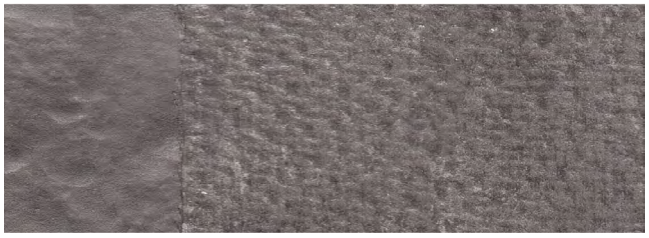
Figure 3.311 M023.



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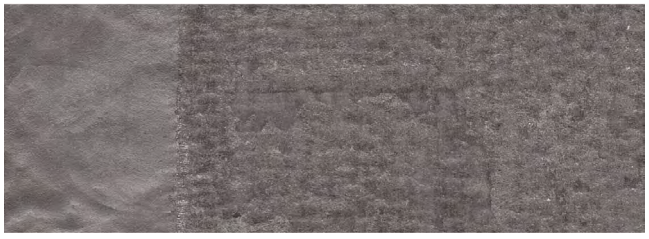

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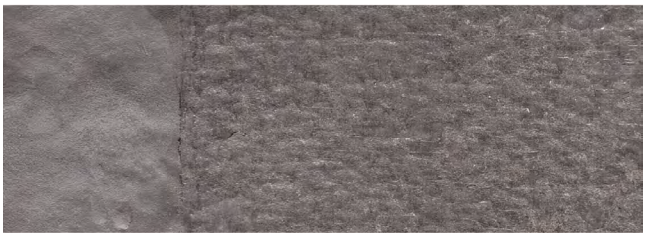

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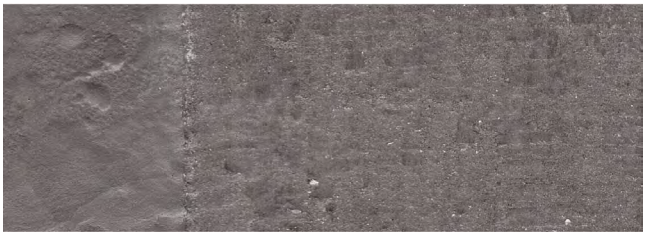

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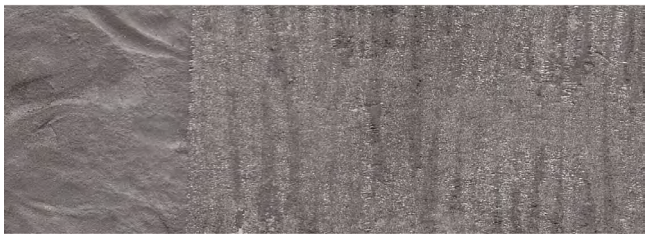
Figure 3.316 M028.

Figure 3.317 M029.

Figure 3.318 M030.

Figure 3.319 M031.



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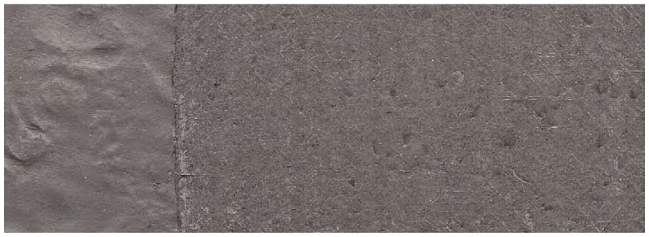

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Figure 3.322 M034.

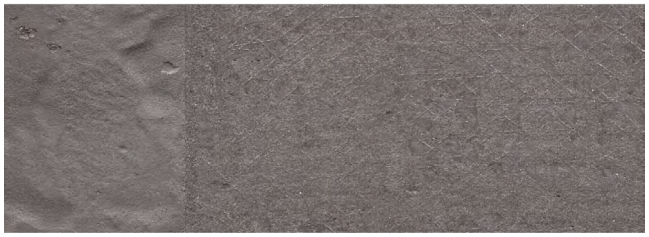

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Figure 3.324 M036.

Figure 3.325 M037.

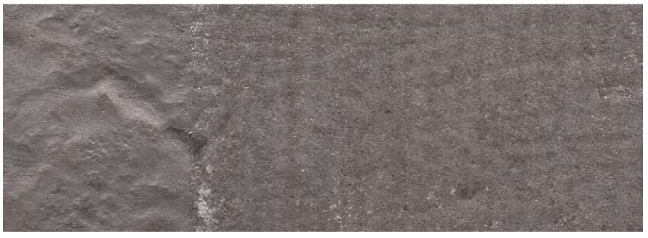


Figure 3.326 M038.

Figure 3.327 M039.

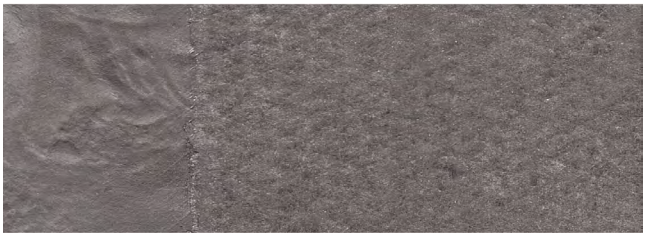
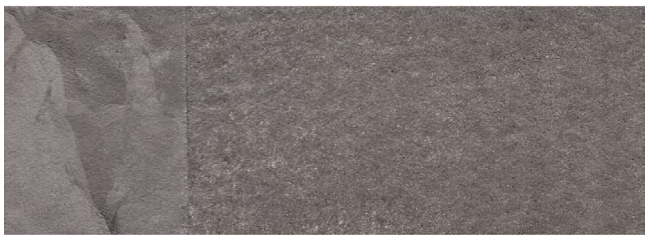


Figure 3.328 M040.

Figure 3.329 M041.

Figure 3.330 M042.



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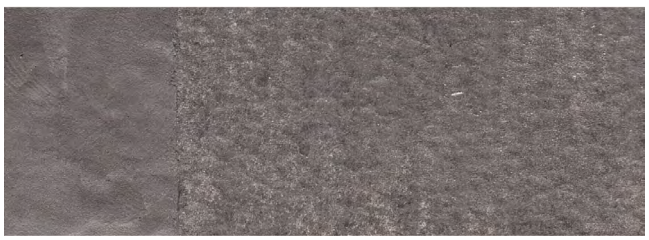
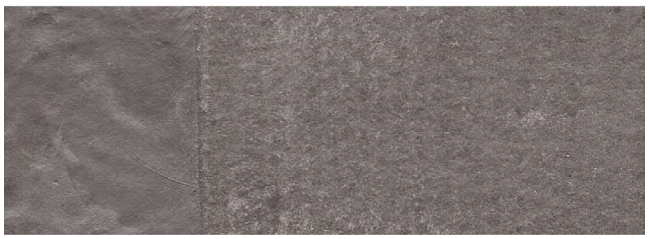


Figure 3.332 M044.



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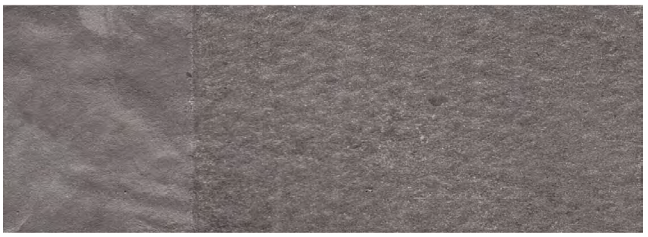

Figure 3.334 M046.

Figure 3.335 M047.

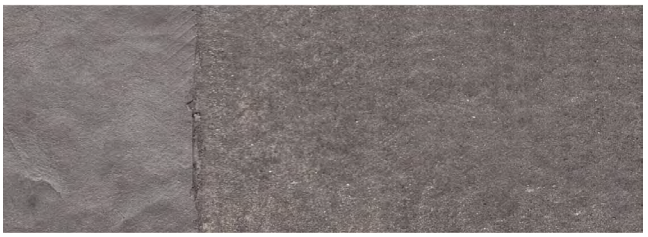

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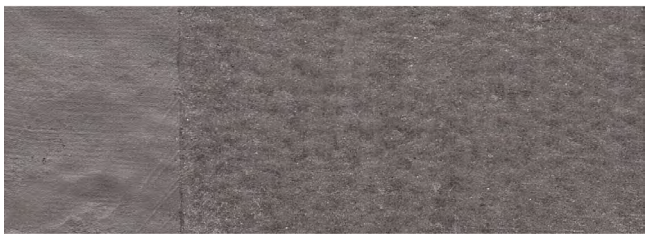
Figure 3.337 M049.

Figure 3.338 M050.



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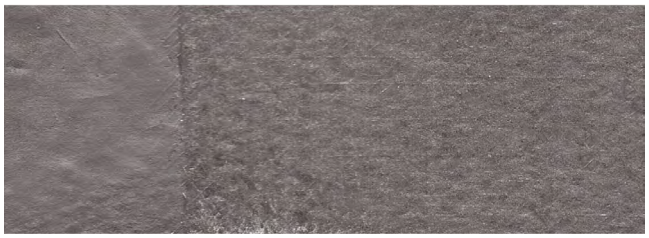

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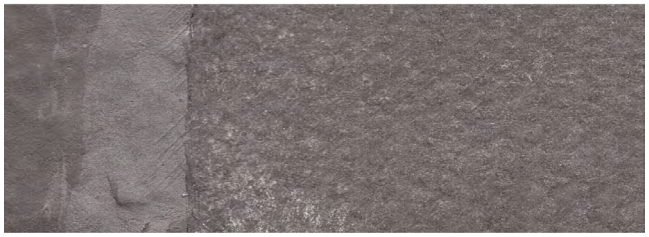

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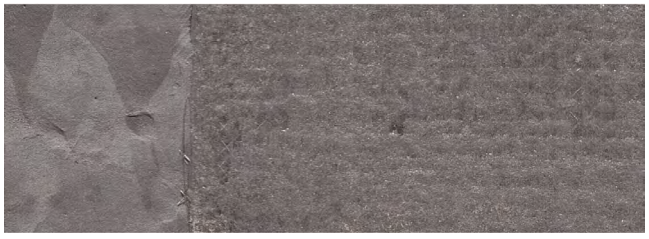
Figure 3.342 M054.



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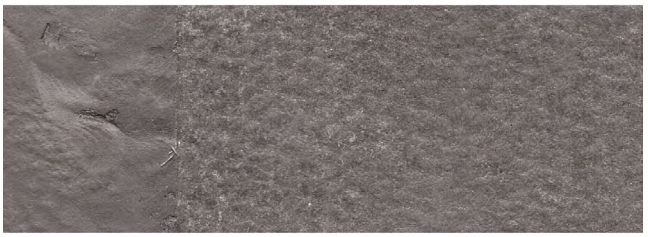

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Figure 3.345 M057.

Figure 3.346 M058.

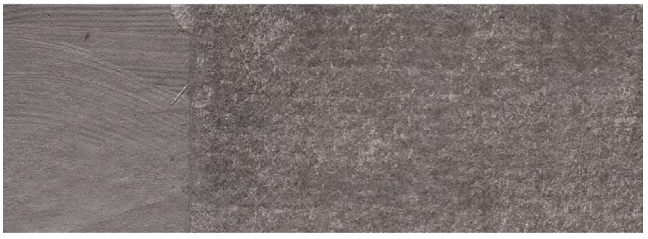

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Figure 3.348 M060.

Figure 3.349 M061.

Figure 3.350 M062.

Figure 3.351 M063.

Figure 3.352 M064.

Figure 3.353 M065.

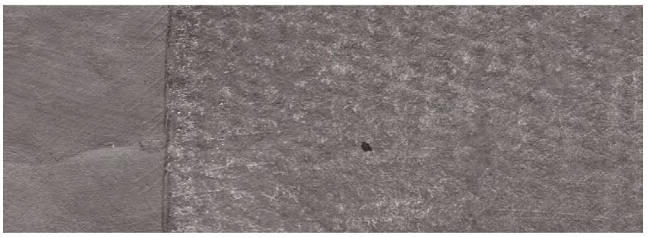

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Figure 3.355 M067.

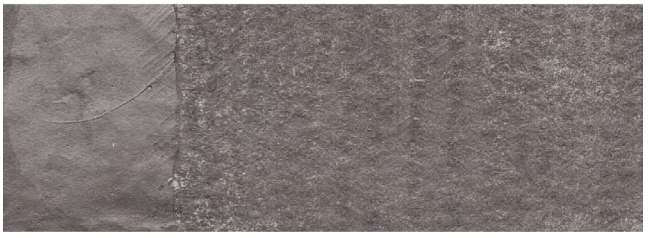


Figure 3.356 M068.

Figure 3.357 M069.

Figure 3.358 M070.

Figure 3.359 M071.

Figure 3.360 M072.

(E) Erase the procedures R and D:

Figure 3.361 E001.

Figure 3.362 E002.

Figure 3.363 E003.

Figure 3.364 E004.

Figure 3.365 E005.

Figure 3.366 E006.

Figure 3.367 E007.

Figure 3.368 E008.

Figure 3.369 E009.

Figure 3.370 E010.

Figure 3.371 E011.

Figure 3.372 E012.

Figure 3.373 E013.

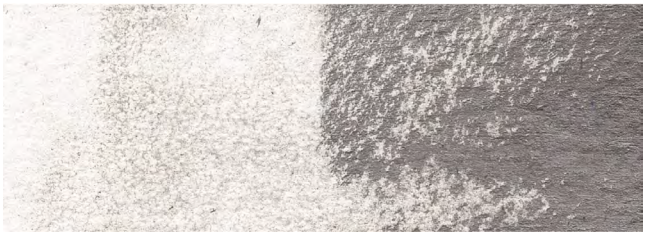


Figure 3.374 E014.

Figure 3.375 E015.

Figure 3.376 E016.

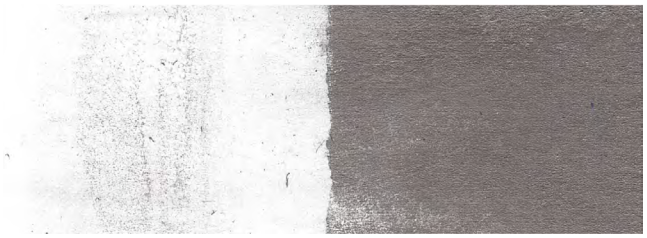
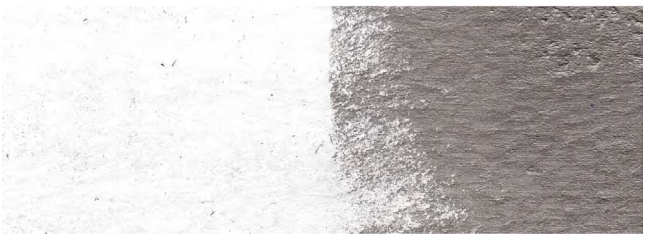


Figure 3.377 E017.



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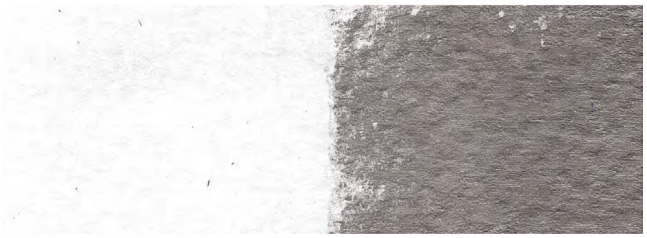

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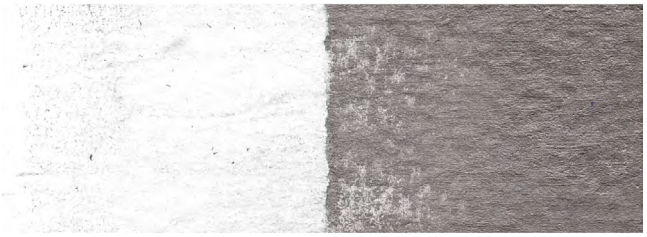


Figure 3.380 E020.

Figure 3.381 E021.

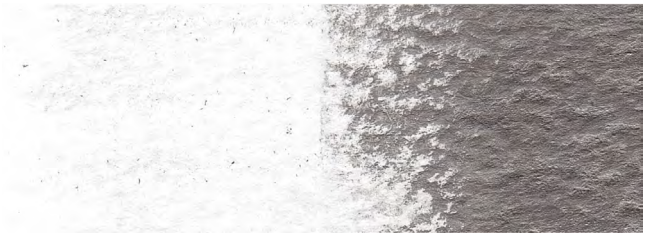


Figure 3.382 E022.

Figure 3.383 E023.

Figure 3.384 E024.

Figure 3.385 E025.

Figure 3.386 E026.

Figure 3.387 E027.

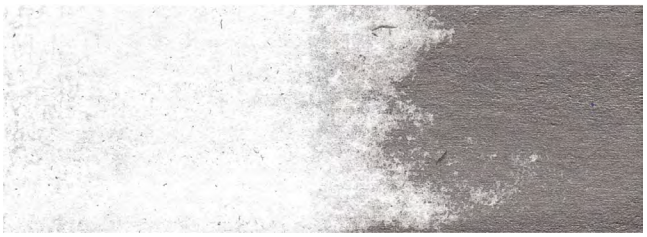
Figure 3.388 E028.

Figure 3.389 E029.

Figure 3.390 E030.

Figure 3.391 E031.

Figure 3.392 E032.



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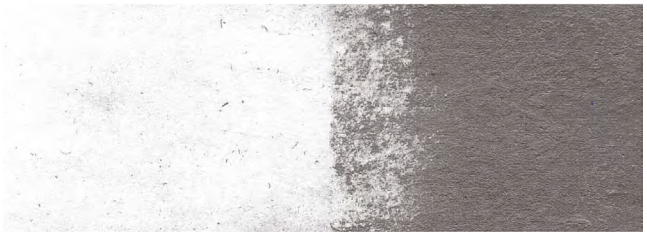

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Figure 3.395 E035.

Figure 3.396 E036.

Figure 3.397 E037.

Figure 3.398 E038.

Figure 3.399 E039.

Figure 3.400 E040.

Figure 3.401 E041.

Figure 3.402 E042.

Figure 3.403 E043.

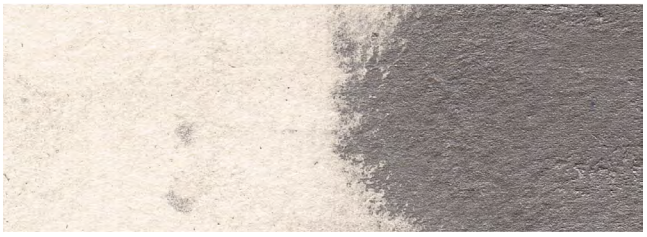

Figure 3.404 E044.

Figure 3.405 E045.

Figure 3.406 E046.

Figure 3.407 E047.

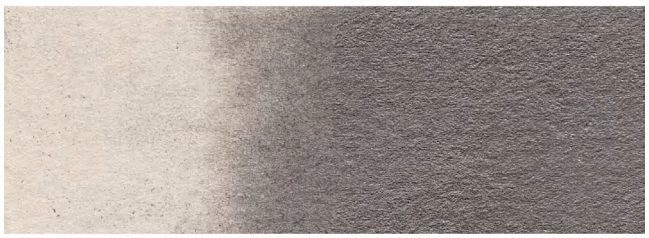

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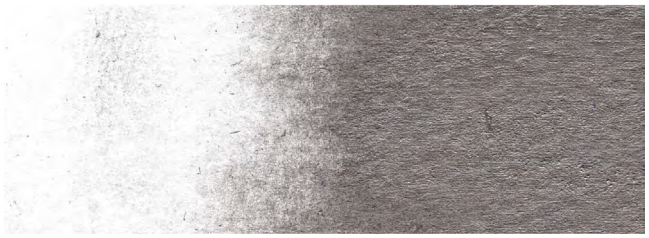
Figure 3.409 E049.

Figure 3.410 E050.



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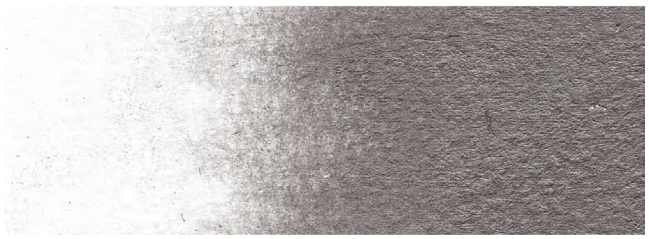

Figure 3.412 E052.

Figure 3.413 E053.

Figure 3.414 E054.

Figure 3.415 E055.

Figure 3.416 E056.

Figure 3.417 E057.

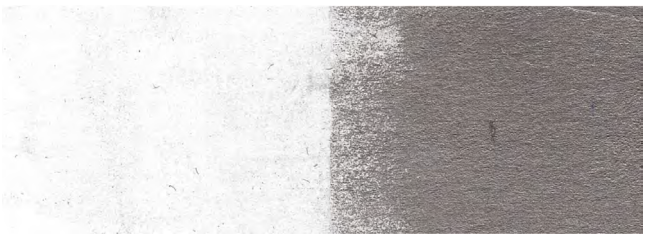

Figure 3.418 E058.

Figure 3.419 E059.

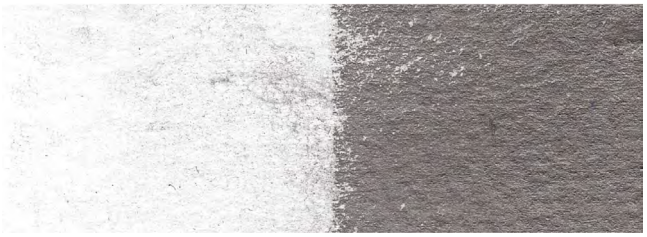

Figure 3.420 E060.

Figure 3.421 E061.

Figure 3.422 E062.

Figure 3.423 E063.

Figure 3.424 E064.

Figure 3.425 E065.

Figure 3.426 E066.

Figure 3.427 E067.

Figure 3.428 E068.

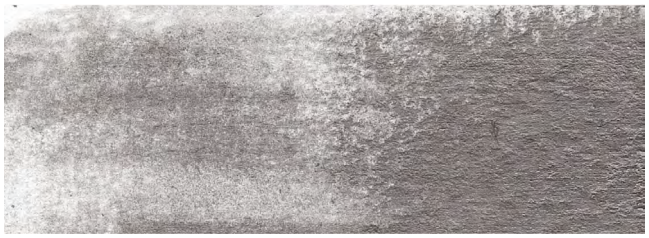

Figure 3.429 E069.

Figure 3.430 E070.

Figure 3.431 E071.

Figure 3.432 E072.

## ArtGraf N°1 report

This report concerns the experimentation carried out to study the properties of ArtGraf N°1. Each section of this report addresses a pre-established performance indicator of ArtGraf N°1, and, along with the researcher's findings, it presents quantitative data collected from 102 participants.

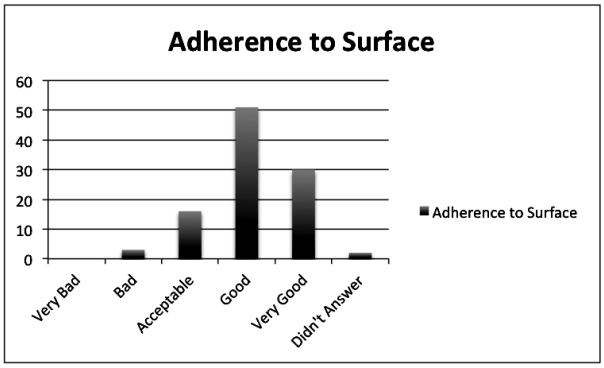

Chart 1 Adherence to Surface.

### 1st Report: Adherence to Surface

Considering the results obtained with the paper samples (St. Cuthberts Mill series: Saunders Waterford, Bockingford, Somerset and Millford) used to experiment ArtGraf N°1, the graphite putty adheres easily to the paper surface.


Figure 3.433 Ricardo Pistola. D.P. (Detail), 2015-2017.

It was observed that:

1. When the graphite putty is **moister**:
    a. Rolling a cylindrical piece of ArtGraf N°1 makes it adhere to the paper surface producing dark tones (Figures 3.35, 3.45, 3.69) with various shades, depending on the pressure exerted and the speed used in the procedure (Figure 3.433, on the right faster and on the left slower). In some cases, this procedure gives origin to darker blots, which are caused by the irregularity of the cylindrical shape and the uneven distribution of humidity (Figures 3.33, 3.72);
    b. Dragging the putty produces a dark and homogenous graphite surface (Figures 3.97, 3.127). The paper texture influences the adherence of the putty, thus, obtaining a


Figure 3.434 Ricardo Pistola. D.P. (Detail), 2015-2017.

homogenous surface is easier on the less textured papers (Figures 3.73, 3.76, 3.79, 3.101, 3.106, 3.107, 3.111, 3.112).

2. When the graphite putty is **drier**:
    a. Rolling a cylindrical piece of ArtGraf N°1 on the paper surface produces lighter tones (Figures 3.3, 3.6, 3.10, 3.22). Using the graphite putty drier in this procedure allows having more control over the homogeneity of the shades through the pressure exerted (Figures 3.27, 3.34, 3.37, 3.61);
    b. Dragging the graphite putty requires exerting more pressure against the paper surface and, in this case, the paper texture also influences the homogeneity graphite surface (Figures 3.82, 3.86, 3.87, 3.90, 3.93, 3.103, 3.113, 3.128, 3.130, 3.131, 3.132).
3. The directions of the movements made while applying the putty on paper influence its adherence to, and the homogeneity of, the surface: dragging in circular movements (Figure 3.434); dragging in parallel movements in the same direction (Figure 3.435); dragging in back and forth movements (Figure 3.436), being that through this movement the previously deposited putty is frequently removed;
4. While dragging the graphite putty, small pieces sometimes get attached to the surface creating texture (Figures 3.89, 3.98);
5. A rubber stamp can be used to print (Figure 3.437);
6. ArtGraf N°1 can be applied recurring to the use of a hard roll, as a means to flatten the putty against the surface (Figure 3.438);


Figure 3.435 Ricardo Pistola. D.P. (Detail), 2015-2017.


Figure 3.436 Ricardo Pistola. D.P. (Detail), 2015-2017.


Figure 3.437 Ricardo Pistola. D.P. (Detail), 2015-2017.

7. Using the graphite putty on a previously wet paper surface increase its adherence to the surface: dragging in circular movements (Figure 3.439); dragging in parallel movements in the same direction (Figure 3.440); dragging in back and forth movements (Figure 3.441), through this movement the previously deposited putty is frequently removed;
8. Small pieces of the graphite putty can be attached to the paper surface (Figure 3.442), the adherence of the putty through this procedure is higher on a previously wet paper surface, which assures that when the putty dries out it remains attached to the paper.
9. The graphite putty can be used to transfer drawings using a tracing paper (Figure 3.443).

Overall ArtGraf N°1 has a great adherence to the paper surface, presenting some variations throughout the procedures used to better understand this performance indicator.

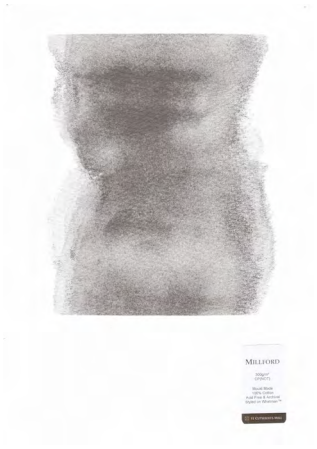


Figure 3.438 Ricardo Pistola. D.P. (Detail), 2015-2017.


Figure 3.439 Ricardo Pistola. D.P. (Detail), 2015-2017.


Figure 3.440 Ricardo Pistola. D.P. (Detail), 2015-2017.


Figure 3.441 Ricardo Pistola. D.P. (Detail), 2015-2017.


Figure 3.442 Ricardo Pistola. D.P. (Detail), 2015-2017.


Figure 3.443 Ricardo Pistola. D.P. (Detail), 2015-2017.

## 2nd Report: Solubility

ArtGraf N°1 has very good solubility. As already mentioned in the 1st report (points 1 and 7): when the putty is moister it is possible to obtain darker tones and when it is dragged on a wet surface its adherence is increased, making it possible to easily achieve a dark and homogenous surface.

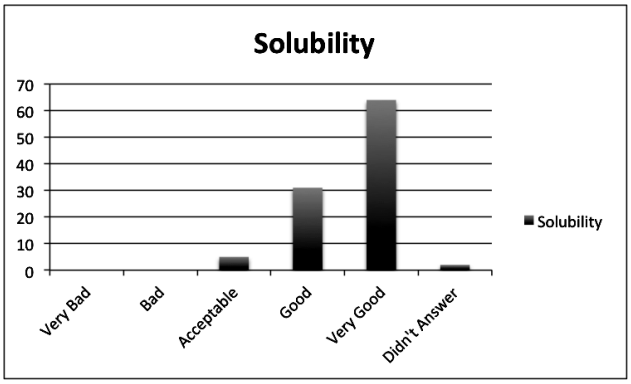


Chart 2 Solubility.

The putty tends to dry out when it is not sealed in the package, but due to its solubility it is always possible to recover its original consistency by mixing it with water. This is one of the main characteristics of ArtGraf N°1, since mixing it with different amounts of water allows controlling the material's hardness and softness and obtaining wide grey scales.

Figure 3.444 Ricardo Pistola. D.P. (Detail), 2015-2017.

To explore this characteristic of ArtGraf N°1, the following procedures were used:

1. The graphite putty was applied directly from the package on the paper surface and a wet brush was later used in order to dissolve it;
    a. This procedure allows obtaining a vast range of shades, however, the texture of the paper (Figures 3.148, 3.149, 3.150, 3.171, 3.178, 3.181, 3.197) and the amount of graphite on the surface (Figures 3.145, 3.146, 3.159, 3.177, 3.182, 3.196, 3.207, 3.213, 3.215) can interfere with the homogeneity of the blots;
    b. This procedure allows drawing over the previously deposited graphite obtaining darker lines and blots (Figure 3.444);
2. The graphite putty was dissolved in water and

Figure 3.445 Ricardo Pistola. D.P. (Detail), 2015-2017.

then applied on the paper surface. With this procedure, it is possible to obtain a wide grey scale with more control than with the previously mentioned procedures, depending on the quantity of water used (Figure 3.445).

3. The graphite putty was applied directly from the package onto a previously wet paper surface. This action allows immediately obtaining a very dark and matt tone (Figure 3.446).


Figure 3.446 Ricardo Pistola. D.P. (Detail), 2015-2017.

This property of ArtGraf N°1 also allows one to go back while working and recovering a dark matt surface. The solubility of the graphite putty is one of the characteristics that makes it a versatile drawing material that can be used in a great variety of ways: when it is drier, the drawing registers present similar effects to those obtained with the traditional graphite products, such as graphite sticks and pencils; when it is moister, it offers the possibility of achieving darker matt surfaces, unobtainable with traditional graphite materials. When the graphite putty is used with water it is less shiny (Figure 3.447). Using the dissolved putty increases the permanence of the drawing, making the use of a fixative practically unnecessary.


Figure 3.447 Ricardo Pistola. D.P. (Detail), 2015-2017.

## 3rd Report: Chiaroscuro Modelling

ArtGraf N°1's versatility and its combined set of properties not only enable the production of a wide range of grey scales, making the chiaroscuro modelling possible in light and dark shades, but also allow an accurate modulation of tone.

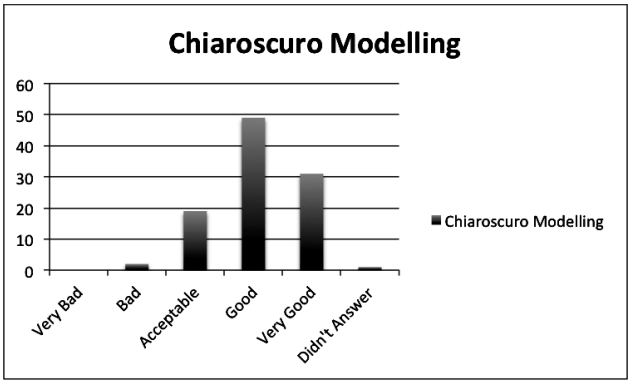


Chart 3 Chiaroscuro Modelling.

This feature of ArtGraf N°1 was explored by:

1. Dragging the graphite putty exerting different degrees of pressure (Figure 3.448);
2. Rolling a cylindrical piece of the graphite putty on the paper surface:
   a. Overlaying the procedure (Figure 3.449);
   b. Exerting different degrees of pressure (Figure 3.450);
3. Using a wet brush over a previously drawn grey scale:
   a. From the lighter to the darker shades (Figures 3.451);
   b. From the darker to the lighter shades (Figures 3.451);
4. Stamping a piece of ArtGraf N°1 (Figure 3.452);
5. Using the graphite putty dissolved with water and applying it with a brush (Figures 3.453, 3.454, 3.455), this procedure allows obtaining a wide range of grey scales with great control in the modulation of the shades;
6. Attaching small pieces of the graphite putty to the paper surface and dragging them, exerting different levels of strength against the surface in order to obtain various shades (Figure 3.456).
7. Erasing the previously drawn marks. This procedure allows working on the chiaroscuro

Figure 3.448 Ricardo Pistola. D.P. (Detail), 2015-2017.

Figure 3.449 Ricardo Pistola. D.P. (Detail), 2015-2017.

modelling, however, obtaining a wide range of grey scales depends on the amount of graphite deposited on the paper surface as well as on the humidity level of the putty while being applied on the paper. When the graphite putty is moister (Figures 3.362, 3.377, 3.379, 3.386, 3.397, 3.412). When the graphite putty is drier (Figures 3.366, 3.374, 3.387, 3.391, 3.392, 3.393, 3.395, 3.398, 3.411, 3.413).


Figure 3.450 Ricardo Pistola. D.P. (Detail), 2015-2017.

The paper texture and weight also influence the chiaroscuro modelling:

1. Less textured paper (Figures 3.457, 3.458, 3.459, 3.460);
2. More textured paper (Figures 3.461, 3.462, 3.463);
3. Paperweight from lighter to heavier (Figures 3.464, 3.465, 3.466, 3.467, 3.468, 3.469, 3.470, 3.471, 3.472, 3.473).


Figure 3.451 Ricardo Pistola. D.P. (Detail), 2015-2017.

Overall, ArtGraf N°1 allows an effective and versatile range of very good chiaroscuro modelling through a wide range of grey scales. While working with the graphite putty directly on the paper surface it was observed that: when the putty is moister, the shades are darker and it allows obtaining subtle tone variations; when the putty is drier, it allows obtaining lighter tones and it is possible to achieve a wider grey scale. However, working with the graphite previously dissolved in water and applying it with a brush allows a greater control in the modulation of the shades and their homogeneity, making it possible to obtain an even wider grey scale.


Figure 3.452 Ricardo Pistola. D.P. (Detail), 2015-2017.

Figure 3.453 Ricardo Pistola. D.P. (Detail), 2015-2017.

Figure 3.454 Ricardo Pistola. D.P. (Detail), 2015-2017.

Figure 3.455 Ricardo Pistola. D.P. (Detail), 2015-2017.

Figure 3.456 Ricardo Pistola. D.P. (Detail), 2015-2017.

Figure 3.457 Chiaroscuro Modelling #1 (Detail).

Figure 3.458 Chiaroscuro Modelling #2 (Detail).

Figure 3.459 Chiaroscuro Modelling #3 (Detail).

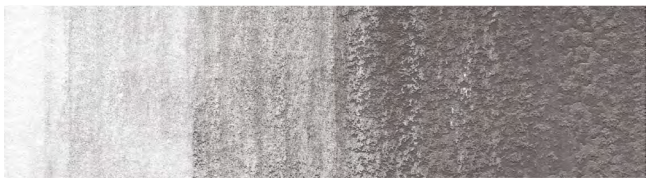

Figure 3.460 Chiaroscuro Modelling #4 (Detail).

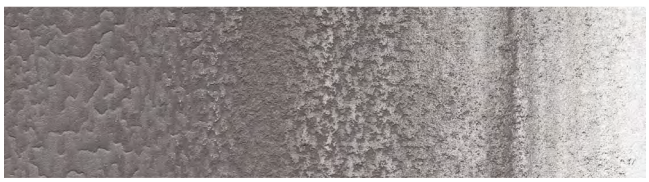

Figure 3.461 Chiaroscuro Modelling #5 (Detail).

Figure 3.462 Chiaroscuro Modelling #6 (Detail).

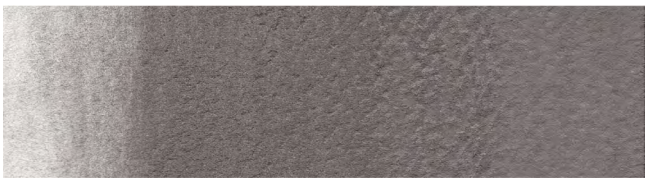

Figure 3.463 Chiaroscuro Modelling #7 (Detail).

Figure 3.464 Chiaroscuro Modelling #8 (Detail).

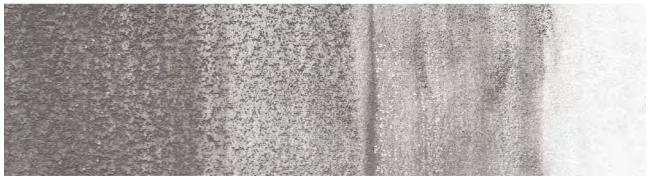

Figure 3.465 Chiaroscuro Modelling #9 (Detail).

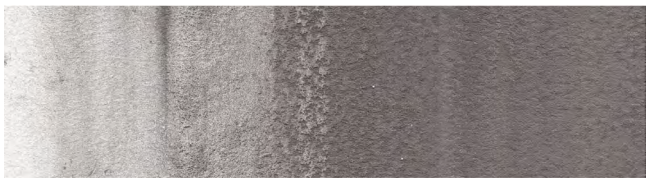

Figure 3.466 Chiaroscuro Modelling #10 (Detail).

Figure 3.467 Chiaroscuro Modelling #11 (Detail).

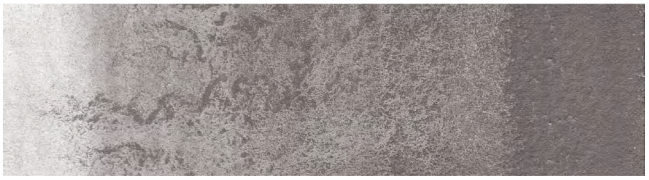

Figure 3.468 Chiaroscuro Modelling #12 (Detail).

Figure 3.469 Chiaroscuro Modelling #13 (Detail).

Figure 3.470 Chiaroscuro Modelling #14 (Detail).

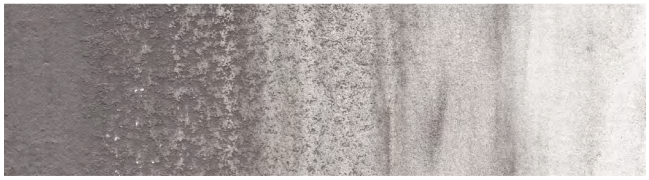

Figure 3.471 Chiaroscuro Modelling #15 (Detail).

Figure 3.472 Chiaroscuro Modelling #16 (Detail).

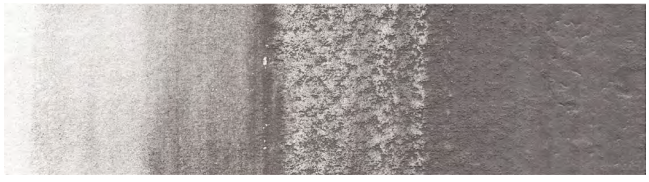

Figure 3.473 Chiaroscuro Modelling #17 (Detail).

**4th Report: Opacity**

While experimenting with ArtGraf N°1 in the DS: *experiment to grasp* and in the DS: *drawing propositions*, it was observed that the graphite putty also has the capacity to achieve opacity, considering that:

1. When the graphite putty is moister, it is easier to cover previous registers on the paper surface, since it allows obtaining dark tones (Figure 4.474);
2. When the graphite putty is applied directly from the package, it allows covering previous registers by dragging it, exerting pressure against the paper surface and overlaying the movements (Figure 4.475);
3. When the graphite putty is dissolved in water the blots present a higher opacity than when it is applied directly (Figure 4.476);
4. When small pieces of graphite putty are attached to the paper surface they completely cover the previous registers (Figures 3.226, 3.242, 3.261, 3.279, 3.281, 3.288, 3.442).

Therefore, ArtGraf N°1 offers a great opacity that varies depending on the procedure used.

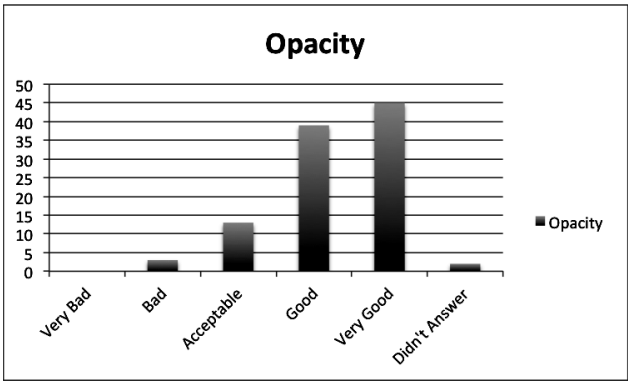


Chart 4 Opacity.

Figure 3.474 Ricardo Pistola. D.P. (Detail), 2015-2017.

Figure 3.475 Ricardo Pistola. D.P. (Detail), 2015-2017.


Figure 3.476 Ricardo Pistola. D.P. (Detail), 2015-2017.

## 5th Report: Transparency

This ArtGraf N°1 characteristic is closely related with its soluble properties (2nd report). Transparency can be obtained by dissolving the graphite putty with water, allowing the production of various light and transparent shades (Figures 3.456, 3.457, 3.477). As already mentioned in the 2nd report, when the graphite putty is previously dissolved in water and then applied to the paper surface, it is possible to create, with great control in the modulation of the shades, a wide grey scale. Various degrees of transparency can be obtained through layers or by mixing ArtGraf N°1 with different quantities of water. The graphite putty applied directly from the package and then dissolved using a wet brush also allows the creation of a vast range of shades. However, this feature can also be explored without recurring to the use of water, in this case, by rolling a cylindrical ArtGraf N°1 tool on the paper surface (Figure 3.478).

Although the high opacity and dark tones are distinctive attributes of the graphite putty, ArtGraf N°1 has also proven to be a very versatile and effective material in terms of transparency.

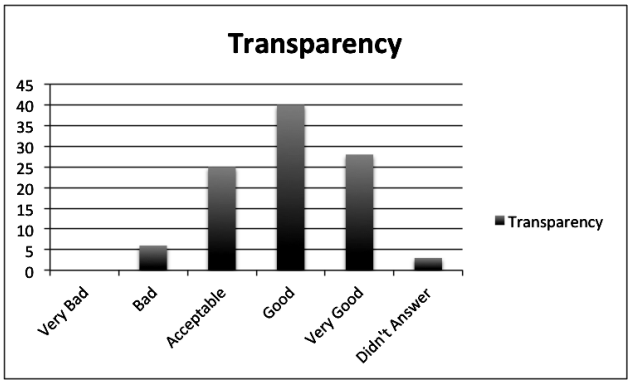


Chart 5 Transparency.

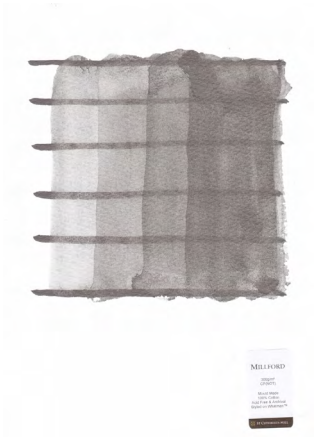

Figure 3.477 Ricardo Pistola. D.P. (Detail), 2015-2017.

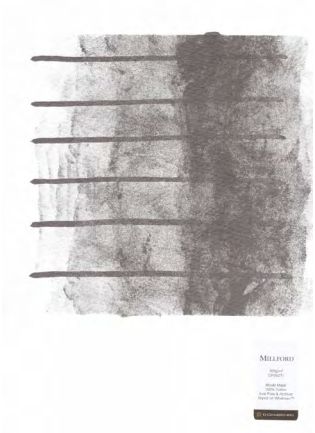

Figure 3.478 Ricardo Pistola. D.P. (Detail), 2015-2017.

**6th Report: Mechanical Resistance**

The report on the mechanical resistance of Artgraf N°1 presents us with a higher discrepancy between the quantitative data and the qualitative findings. It is most likely that it was not clear to the participants what was meant with the term and that they took other proprieties into consideration.

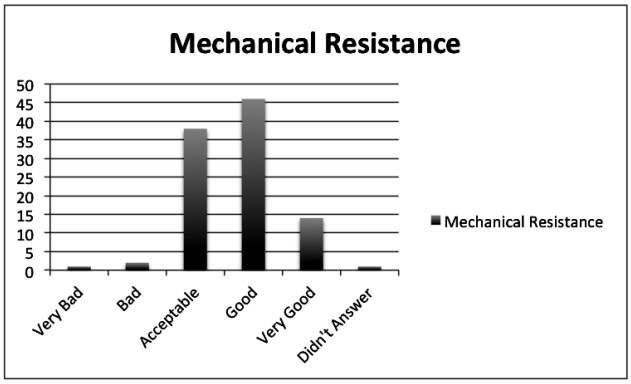


Chart 6 Mechanical Resistance.

Considering that the mechanical resistance of ArtGraf N°1 relates to the stability of the tool modelled while drawing with the graphite putty, it was observed that:

1. Using ArtGraf N°1 directly from the package, the tool modelled presents low resistance that is also influenced by the pressure exerted while drawing. The graphite putty tends to become sticky after some time working with it, disintegrating and leaving behind some pieces attached to the surface;
2. When the graphite putty is drier, the tool modelled acquires more resistance in the contact and friction with the paper surface, making it possible to exert more pressure against the surface without deforming the tool;
3. When ArtGraf N°1 is moister, the tool modelled presents lower resistance in the contact and friction with the paper surface. The tool easily deforms, not allowing great control upon its shape.

Regardless of what is referred above, while using ArtGraf N°1, it is necessary to constantly reshape the tool in order to maintain the expressive qualities of its registers. But this is also one of the distinguishable features of ArtGraf N°1, since it allows creating various tools, thus providing a wide range of drawing effects.

## 7th Report: Permanence

Permanence is the most difficult performance indicator to analyse, since it would be necessary to observe the changes that may occur in the drawings made with ArtGraf N°1 throughout time. For that reason, inside the DwA drawing folder that contains the DwA dissertation are drawings and silkscreens made with ArtGraf N°1, which will allow the reader to observe their durability. Therefore, permanence is here understood as the material's capacity to fixate to the paper surface.

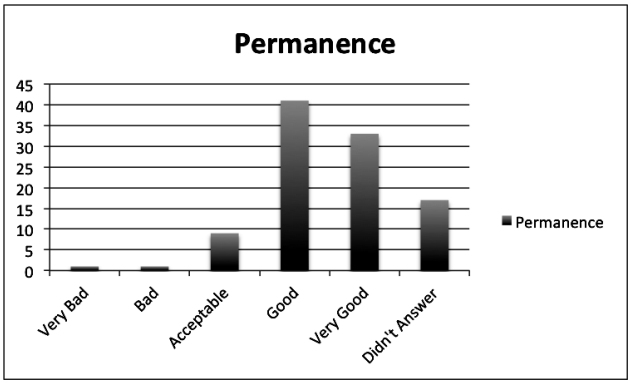


Chart 7 Permanence.

Through the experiments made with the graphite putty it was observed that:

1. The blots and lines produced with ArtGraf N°1 present a good adherence to the paper surface, making the use of a drawing fixative practically unnecessary;
2. When small pieces of graphite putty are attached to the paper surface, they adhere more effectively and permanently to a previously wet surface (Figure 3.442) than to a dry paper surface, on which the putty tends to detach from the paper when it dries out (Figure 3.479, 3.480, 3.481).
3. It is possible to erase the drawn surfaces. However, this action is influenced by the humidity level of ArtGraf N°1 while being applied on the paper surface (see point 7, in the 3rd report: chiaroscuro modelling).
4. After extracting attached ArtGraf N°1 with a metal point the paper surface still presents dark shades of graphite (Figures 3.291, 3.304, 3.313, 3.335, 3.358).

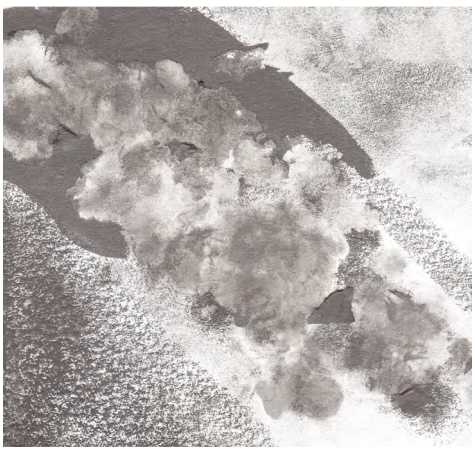

Figure 3.479 Attach #4 (Detail).

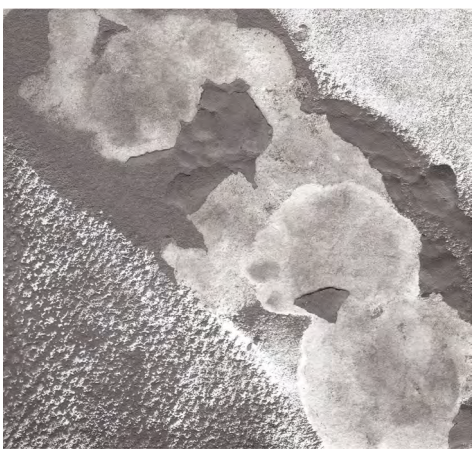

Figure 3.480 Attach #5 (Detail).

Figure 3.481 Attach #6 (Detail).

## ArtGraf putty in colours

During the development of ArtGraf N°1, the researcher, the material's producers and a few participants thought about the possibility of having this material in colours. Therefore, a series of tests were made and here are presented the researcher's experiments with the ArtGraf putty in yellow, red and blue using the procedures: drag, attach and pull (Figures 3.482, 3.483, 3.484). However, these putties are still in development and present characteristics that differ from those of ArtGraf N°1.


Figure 3.482 Drag, attach and pull #1.


Figure 3.483 Drag, attach and pull #2.

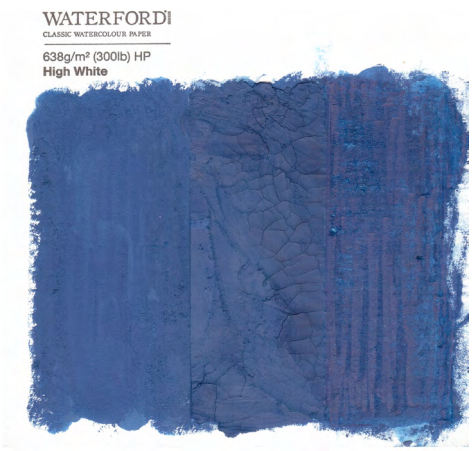


Figure 3.484 Drag, attach and pull #3.

## Graphite silkscreens

During the study of ArtGraf N°1 and once the experimentation process became the assemblage of a catalogue of procedures that would allow grasping its properties, the idea of producing multiples arose. Therefore, the researcher became interested in making graphite silkscreens using ArtGraf graphite powder (water soluble).

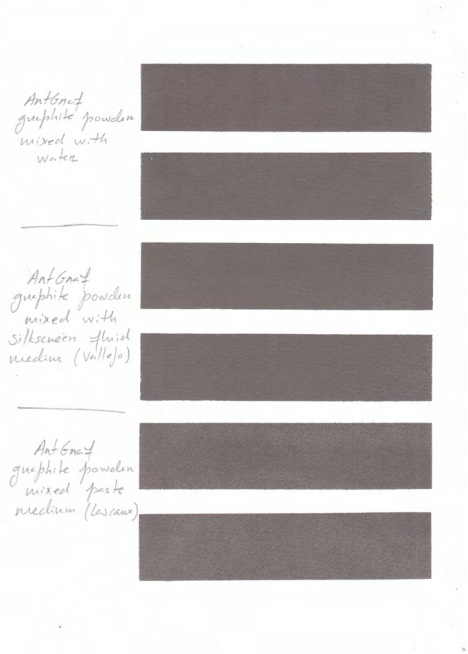


Figure 3.485 Graphite silkscreen test #1.

To experiment the graphite silkscreen printing, ArtGraf graphite powder was used mixed with:

1. Water (Figure 3.485);
2. Water and silkscreen fluid medium matt – Vallejo (Figure 3.485);
3. Water and silkscreen paste medium – Lascaux (Figure 3.485). This medium allows obtaining a wide grey scale, depending on the amount of graphite added to it (Figures 3.486, 3.487).

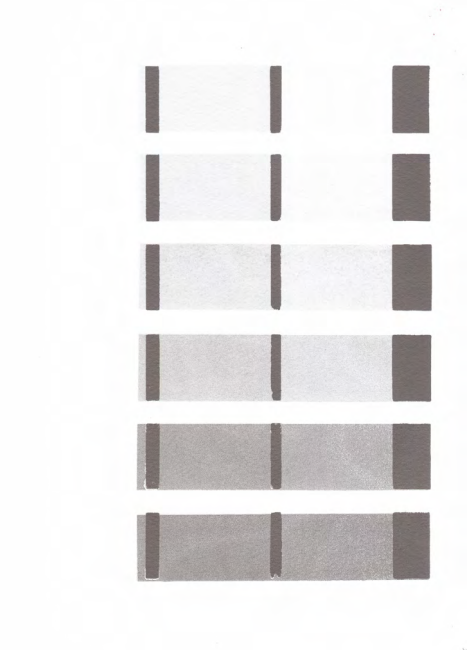

Figure 3.486 Graphite silkscreen test #2.

The results obtained through these three mixtures do not present very significant differences. However, it was noticed that when the graphite powder is mixed only with water it produces a matt surface, which allows the after work on subtle shine through polishing and/ or drawing lines on the surfaces. It was also observed that the permanence of the printed surface is increased while using the paste medium. In the process were used screens with meshes of 31, 51, 47, 91, 120 and 140 wires per $cm^2$. It was observed that printing with the graphite powder mixture gave good results, however, with the meshes of 120 and 140 wires it was impossible to print, because the graphite particles did not transfer onto the paper surface. It was also noticed

that printing with the graphite powder did not allow producing many copies, since the putty tends to dry out fast even when mixed with the mediums (Figure 3.488).

It was observed that the properties of the graphite powder, the screen used to print and the amount of water and/or silkscreen medium have an influence on the achievement of accurate copies. Nevertheless, the researcher considered that this behaviour had potential in the development of his artistic practice. By obtaining slightly different prints, the researcher accepts that these variations and the accidents in the silkscreen printing process integrate his work. However, in the experiments made, it was also observed that printing with the graphite powder allows obtaining details in even finer lines. Therefore, in the DO stage are presented works using this technique and inside the DwA drawing folder, together with this dissertation, are a few examples of graphite silkscreens made by the researcher (Annexes 1, 2, 6, 7, 9).

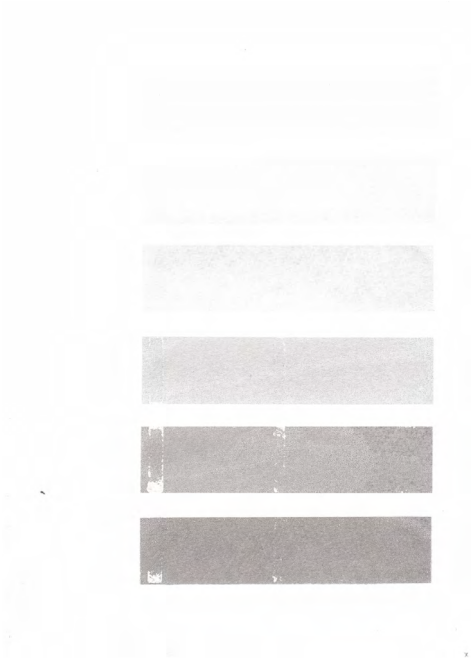

Figure 3.487 Graphite silkscreen test #3.

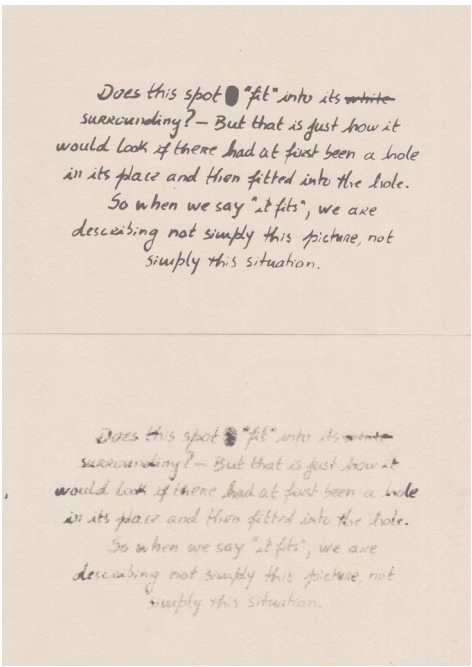


Figure 3.488 Graphite silkscreen test #4.

# STAGE 4: DO

## (Drawing Scenario: Drawing Propositions)

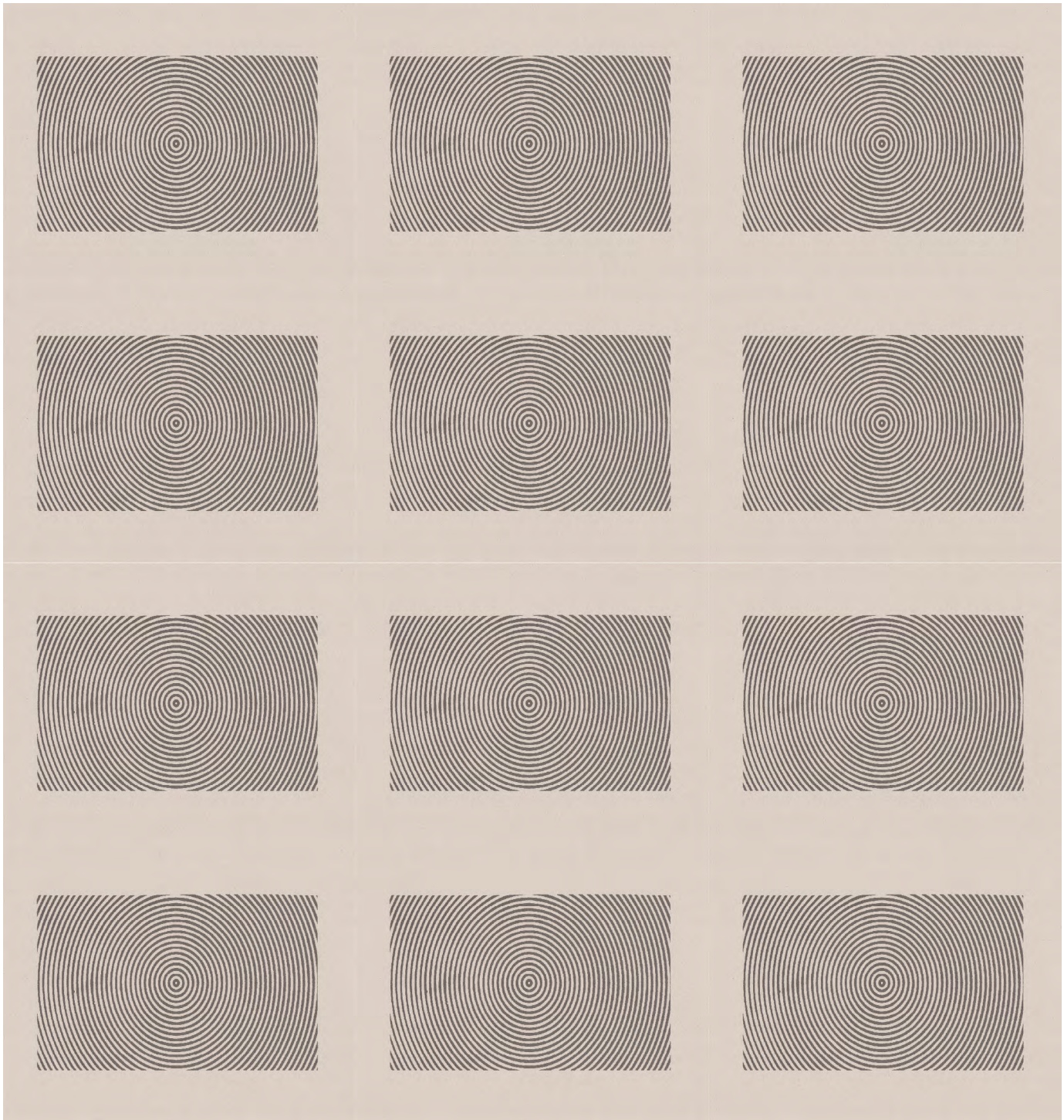

Figure 4.1 Ricardo Pistola. Vertigo (Detail), 2017.

> Does this spot  '*fit*' into its white surrounding? — *But that is just how it would look* if there had at first been a hole in its place and it then fitted into the hole. So when we say "it fits", we are describing not simply this picture, not simply this *situation*.
>
> Ludwig Wittgenstein (2008, §216)

## DRAW OUT

DO (Draw Out) is the stage in which the researcher's artistic practice assumes a major role and goes beyond the context of this study. DO is considered as an open stage that does not relate directly to the DF (Draw from DwA) stage, which maps and structures the research field, setting the methodological approaches in each stage (DA [Draw Along] and DI [Draw In]). DF was conceived in this study as a stage that narrows the focus of the DA and DI stages.

Since DO appears in this research as a stage that emerges from and within the researcher's artistic practice, which cannot be dissociated from his research practice, the connection that can be established between DO and DF refers to the theoretical approach and to the tracing of the research paths. DF results from the researcher's methodological approach to this study with the purpose of providing solutions and further forms of inquiry and experimentation in response to the demands of the industrial context, in which this research was held.

The connection between DO and DF is viewed as the researcher's construction of a method to develop this study. *Drawing from DwA* (DF) is understood as an itinerary drawn through a mapping of the DwA process. Therefore, DF does not exert influence upon DO but is instead considered as its product. Inasmuch as DF functions as a methodological tool engendered within the theoretical dimension of this study, the diagrams drawn by the researcher, and by which, along with the readings that constituted the research's background, he structured his thought, are presented in the DF stage with the purpose of systematizing the research and offering a clear view on its structure and paths.[1]

In the DF stage, *draw* is related to the establishment of connections between the research stages and its components, which appear in different degrees throughout the four stages of the research: the

[1] Annexes 3, 4 and 5 (DwA drawing folder).

diagrammatic component that concerns the methodology used for the development of the research, the industrial component that relates to the development of drawing materials, the technological component, which addresses the methods applied in the research's practical approach, and the social component that refers to the interpersonal relations present in the research. *Draw* has, therefore, a diagrammatic character, setting a map of the research that follows the construction of the research field through two reversible tensors (*draw* and *authority*) and presenting the four research stages and the research paths with univocal directions that lead to the *drawing scenarios*.[2] At this stage, *draw* is precisely a system of vectors that provides an overview of the research field and the movements made by the researcher. It is presented as a closed system in which the research components play a key role in the creation and direction of the research paths.

The assignment of these diagrams consists in the elaboration of the first notions and categories from which the sense of the research's action arises. Accordingly, the notions implied in the research are organized in a network. In this instance, *draw* is intrinsically related to an analysis that is distinct from research's action – in the extent that the sense that derives from these first notions and categories translates into the key concepts that are applied to the action. Unlike the empirical concepts, these are concepts that have the function of making possible the observation and comprehension of a field of experience which corresponds to the action of the research. Thus, to conceive *draw* as system it is necessary to establish the categories that constitute the research field and provide its basis. The DS: *drawing from DwA* presents the research basis by unveiling its foundations, which are subject to further elaborations throughout the research.

Nevertheless, the act of drawing the diagrams, and the drawings themselves, integrate the researcher's drawing practice (DO stage), which is his natural medium to explore ideas. Thus, the research structure and the writing of this dissertation arose from the researcher's drawing practice and were informed by the readings that accompanied this process. And it is in this sense that DF appears as a product of DO, evidencing the fundamental role of the drawing practice in the research and in the writing structure of this study.

DwA as a process, however, plays a key role in the DO stage. This approach to DO considers that the relations implied in *Draw with(out) Authority* allow establishing connections between the researcher's artistic and research practices. As previously exposed, DO relates to the DA stage through subjective processes, which simultaneously inform and influence the researcher's educational

[2] Annex 4 (DwA drawing folder).

and artistic practices, and to the DI stage by compositional and decompositional[3] relations that allowed the synchronous development of the study on ArtGraf N°1's properties and the researcher's artistic practice.

The relationship between artistic and research practices presents tensions that are rooted in the distinct and specific fields that each one inhabits. However, in the development of this research in the industrial and the academic contexts, the analyses of the drawings produced by the researcher were brought into the specificity of the study of ArtGraf N°1's properties and its use through his drawing practice. Therefore, the analyses of the researcher's drawings are addressed from a technical perspective with the intention of obtaining information about ArtGraf N°1, revealing a systematic character that approaches the language of drawing by means of alterations of meaning introduced by the researcher and by dint of the industrial environment in which the research was held. Nevertheless, the drawing practice in DO is understood beyond the technical perspective, perceived as a decomposition process that is confined to statements and concentrates the attention on ArtGraf N°1's physical and mechanical attributes.

Moreover, this is a practice-based research and therefore the researcher's expression acquires importance over its findings:

> [E]xpression is founded on the finite occasion. It is the activity of finitude impressing itself on its environment. Thus it has its origin in the finite; and it represents the immanence of the finite in the multitude of its fellows beyond itself. The two together, namely importance and expression, are witness both to the monistic aspect of the universe and to its pluralistic character. Importance passes from the world as one to the world as many; whereas, expression is the gift from the world as many to the world as one. (Whitehead 1968, 20)

DO addresses the dialogue established between the research and the practice-based artistic contexts. Thus, the researcher creates a working process by setting the criteria for the establishment of a sustainable creative dialogue between research and artistic practices, which is engaged within the field of artistic research. "The artist as researcher, apart from producing art, must engage in discourse (be it artistic, social, political, philosophic), and take it upon her – or himself to clarify the discourse of which the artist is a part by producing artistic work." (Wesseling 2016, 9)

Furthermore, the researcher's drawing practice precedes and goes beyond the study of ArtGraf N°1 and integrates his biographical dimension, which directly influences the development of the research.

[3] The term "decompositional" refers to the selection of details from drawings made by the researcher that were used to study ArtGraf N°1 properties.

In this respect, there is a phenomenological aspect to the drawing activity, particularly in the sense that it takes place in the sphere of personal practice and relates this practice to the public domain. Drawing, is then not only a form of inquiry but also a way of being an artist who draws — which in itself is not simply a description of what an artist does, but a horizon on which the artist travels and continuously defines his work and modes of doing. This constitutes a very important aspect of the intimacy of drawing as a human endeavour — in both its ontological and epistemological dimensions of being *qua* knowing, as those parameters by which autonomy comes to be.

Thereby, DO is set in the dimensions of possibility and autonomy. In this sense, it distinguishes itself from the instrumental and heteronomous nature of the act of drawing for a *purpose* in a research environment in which the art of drawing is not simply used as an instrument, but where it becomes an occasion of mediation and meaning. Here the researcher's personal experience should be recognized as that which is integral to conducting this study, while at the same time as a hermeneutic moment where the interpretation of the data generated by the product and by drawing are also products of his awareness — and thereby ontological in their phenomenological stature and nature.

In this way, DO as a form of artistic practice is engaged with DwA as *Draw with Authority* when the researcher gains and retains complete control (and therefore a fuller sense of autonomy) over the practice. This means that the artist is not a passive producer of data, or a distanced analyst of its forms of knowledge, but someone who invests his being (qua art) into both data and analysis — which in themselves become other than mere units of knowing, but instead they are forms of being and thus constitute a prerequisite for the knowledge as generative data.

On the other hand, DO, as research practice, meets DwA as *Draw without Authority* once the artistic practice becomes subject to analysis and the opacity that is inherent to the artistic domain is withdrawn, as well as in the sense that the research practice, in the scope of this study, is perceived as a collaborative work. Ontologically, this creates a sense of community by which learning takes place as a space or indeed terrain for sharing individual experiences through experimentation. "All education proceeds by the participation of the individual in the social consciousness of the race." (Dewey 1959, 26)

The academic, the artistic and the industrial contexts in this research are recognized as learning communities within which intersubjectivity arises. Education is perceived as a process of living

rather than a preparation of individuals for the future. Under this assumption, education is an inherently associative practice by which communication, as a process of sharing experience, insures the individual's participation in a common understanding that assumes a major importance in the formation of these learning communities. As Dewey (1959, 14) argues, what individuals "must have in common in order to form a community or society are aims, beliefs, aspirations, knowledge". Therefore, understanding education as a participatory process within society and communities relates it with democracy as a "mode of associated living, of conjoint communicated experience." (Dewey 1959, 20)

In this sense, the researcher belongs to and participates in these learning communities that, in the scope of this study, are framed in the academic, the artistic and the industrial contexts. This brings his action into a process that integrates the communication and the agreement with other individuals within these three contexts, as well as his interpretation of which aims play a key role and how to approach them in the research development and in the choice of his actions. Therefore, freedom, understood as the release of the individual's capacity for action, is a condition for the realization of the potentialities of the individual and for social progress. Without freedom, the search for new paths, new ways of doing and new truths, comes to an end, dictating strict forms of external authority.

> The democratic idea of freedom is not the right of each individual to do as he pleases, even if it be qualified by adding "provided he does not interfere with the same freedom on the part of others." While the idea is not always, not often enough, expressed in words, the basic freedom is that of freedom of mind and of whatever degree of freedom of action and experience is necessary to produce freedom of intelligence. The modes of freedom guaranteed by the Bill of Rights are of this nature: Freedom of belief and conscience, of expression of opinion, of assembly for discussion and conference, of the press as an organ of communication. They are guaranteed because without them individuals are not free to develop and society is deprived of what they might contribute. (Dewey 1959, 36)

The researcher's movements and action within and between the communities present in the context of this study, and since this is a practice-based research in which the researcher's artistic practice acquires a central role, bring into the creative work a status that removes oppressive loads, thereby creating the opportunity for positive constructive work. Consequently, the notion of *authority* in the DO stage is seen as authorship and refers to the autonomous and therefore free choices made by the researcher while carrying out this study, as well as to the art works that he produced during that period.

## AUTHOR AS AUTHORITY

Reflecting upon the work developed in this study, the researcher's options and the choices that he made shaped the contours of the research. The connections established throughout the research stages, which were here identified, evidence the researcher's movements within the research field. As already mentioned, this study was conducted in the industrial, academic and artistic fields and the boundaries between them are sometimes difficult to define. Therefore, and considering that the researcher's action was, simultaneously, constrained and driven by the interpersonal relationships that occurred during the study, the DwA dissertation accounts for the space the researcher found to develop this research and his artistic practice. In a certain sense, it reveals the hidden matrix that constituted the research field, apparently placed in a temporal suspension, which is paradoxically evidenced through the action of drawing and its relation to the notion of *authority*.

In the development of this project within the academic context, the drawing activity at certain instances was brought into the domain of collaborative work. *Square into a circle* (Figure 4.2) is a drawing made in collaboration between the researcher, a sculptor, a musician and a dancer that were all, at that time, developing their personal Ph.D. projects. This drawing was produced in the context of a seminar, conducted by Professor John Baldacchino, that took place in the Fine Arts Faculty of the Oporto University. The proposal of this activity was to explain, resorting to an artistic medium, a circle, a square or a triangle. Through dialogue, our work group decided to respond to it by transforming a square into a circle. For that purpose, a choreography was created by which the participants, through the synthesis of their actions, turned a square piece of ArtGraf N°1 into a circle. During this event, the exercise of such a task was made visible and the implications of the combined actions in the form transformation as well as the drawing here presented are the traces and results of

Figure 4.2 Collaborative drawing. Square into a circle, 2015.

that action. In such cases, *authority* appeared therefore aligned with a semiological negotiation of meaning, revealing a relativist ontological position towards the drawing practice. The act of making within the drawing practice is then bounded by the negotiation between the subjects. Hence, the various perspectives coexisting in the basis of the activity are unified and evidenced through drawing. Reality and meaning are construed through social practice, where personal development is rooted in the openness between subjects. In this sense, the researcher's autonomy of action within the drawing practice is here comprised in a system of co-authorship, in which autonomy is intertwined with a degree of agreement between all the participants.

Considering the researcher as an author implies understanding that his account relates to his perception and interpretation of the facts, organized in a narrative or a logical sequence that is constructed upon a space of exception[4]. However, the notion of *authority* plays a major role in what concerns the internal referents according to which *authority* is viewed as authorship, as well as the external conditionings by which *authority* is recognized as a set of guidelines for the researcher's actions. Therefore, perceiving the research field as a space of exception, where the researcher's artistic and research practices take place, brings up the reflection upon his function in that space. The author's function is, as Foucault (1998) says, "characteristic of the mode of existence, circulation and functioning of certain discourses within a society." (211)

That being the case, and without concerns about questions of authenticity, the biographic aspects that determine the author's individual perspective and his positioning in the social context make of him not only the foundation for the account of occurrences in the research, but also for the processes of transformation. Thus, the author's function in the scope of this study is perceived as a principle of unity that allowed the constitution of the researcher's path through the industrial, the academic and the artistic fields. For that reason, his function here relates: first, to the industrial and academic institutionalized systems, which bound the practice of drawing through the categorization of procedures and techniques and through the conceptions and methodologies adopted in the teaching of drawing; second, to the researcher's academic background that affected his perception and performance while carrying out this study; third, to the compromise found between his personal interests and the research goals; and, finally, to the development of his artistic practice that emerged from and goes beyond the scope of this study. Moreover, "the author is not an indefinite source of significations that fill a work; the author does not precede the works; he is a certain functional

[4] The term "exception" is here used in the sense given by Agamben (1998): "What is excluded in the camp is, according to the etymological sense of the term 'exception' (*ex-capare*), *taken outside*, included through its own exclusion." (170)

principle (…) by which one impedes the free circulation, the free manipulation, the free composition, decomposition, and recomposition of fiction." (Foucault 1998, 221)

At this point, DwA as a process in the scope of this study allows understanding the notion of authorship, in the practice of drawing, through an intermittent movement between *with* or *without authority* and considering drawing as a shared practice, in which the individuals learn with each other and through their personal experiences. By bringing the exploration of the language of drawing into the industrial and the academic contexts, these become the boundaries for the practice of drawing, based upon technical categorizations and drawing traditions. Therefore, the *author as authority* corresponds here to the researcher's actions in the conduction of this study, which were shared with the participants and turned into object for transformation through the *drawing scenarios* presented. Moreover, the drawing practice, despite being related to experiences shared by individuals, is also and always perceived as an individual practice by which a fuller sense of the drawer's autonomy of knowing through experience is recognized.

Accordingly, the last DS: *drawing propositions*, from which the DO stage arose, represents the researcher's exit from the scope of this study. Although most of the *drawing propositions* were presented throughout the DI stage with the purpose of giving visibility to the researcher's findings on ArtGraf N°1's properties, which implied deconstructing their sequential character, they are in this stage presented in a composition made by the researcher and perceived as a *drawing scenario* in which the researcher resumes and gives continuity to his artistic practice.

# DRAWING PROPOSITIONS

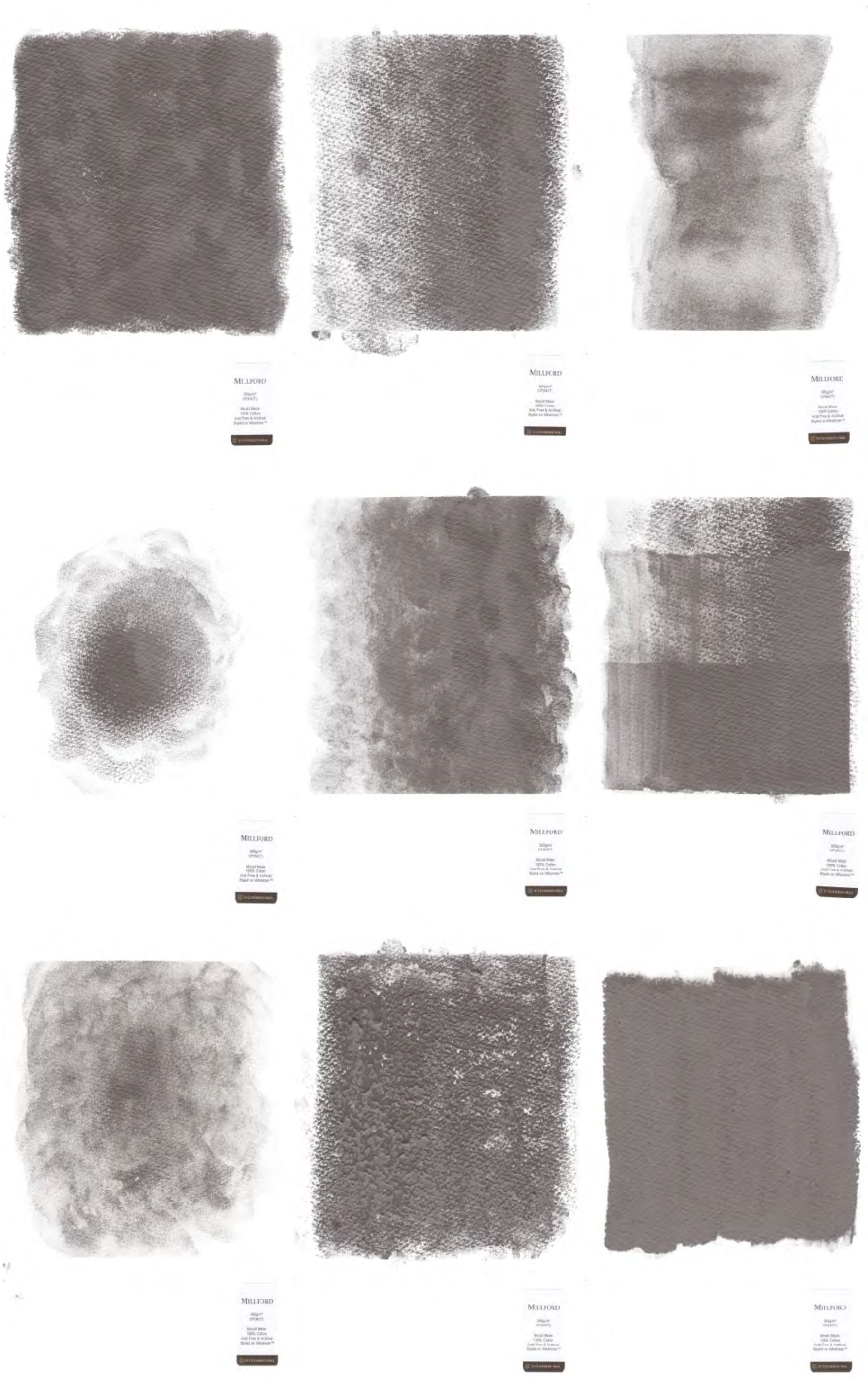


Figure 4.3a Ricardo Pistola. Drawing Propositions (Detail), 2015-2017.

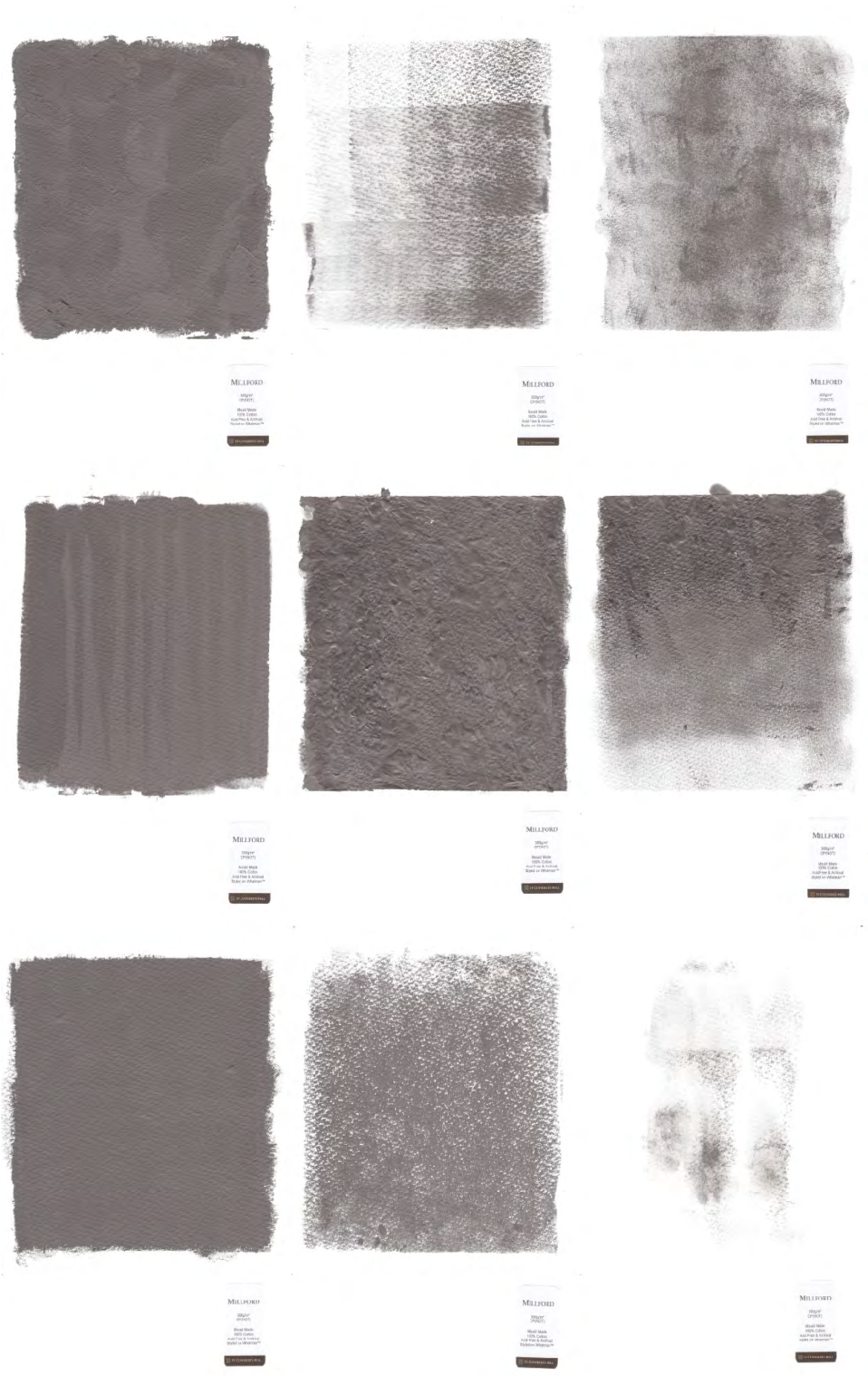


Figure 4.3b Ricardo Pistola. Drawing Propositions (Detail), 2015-2017.

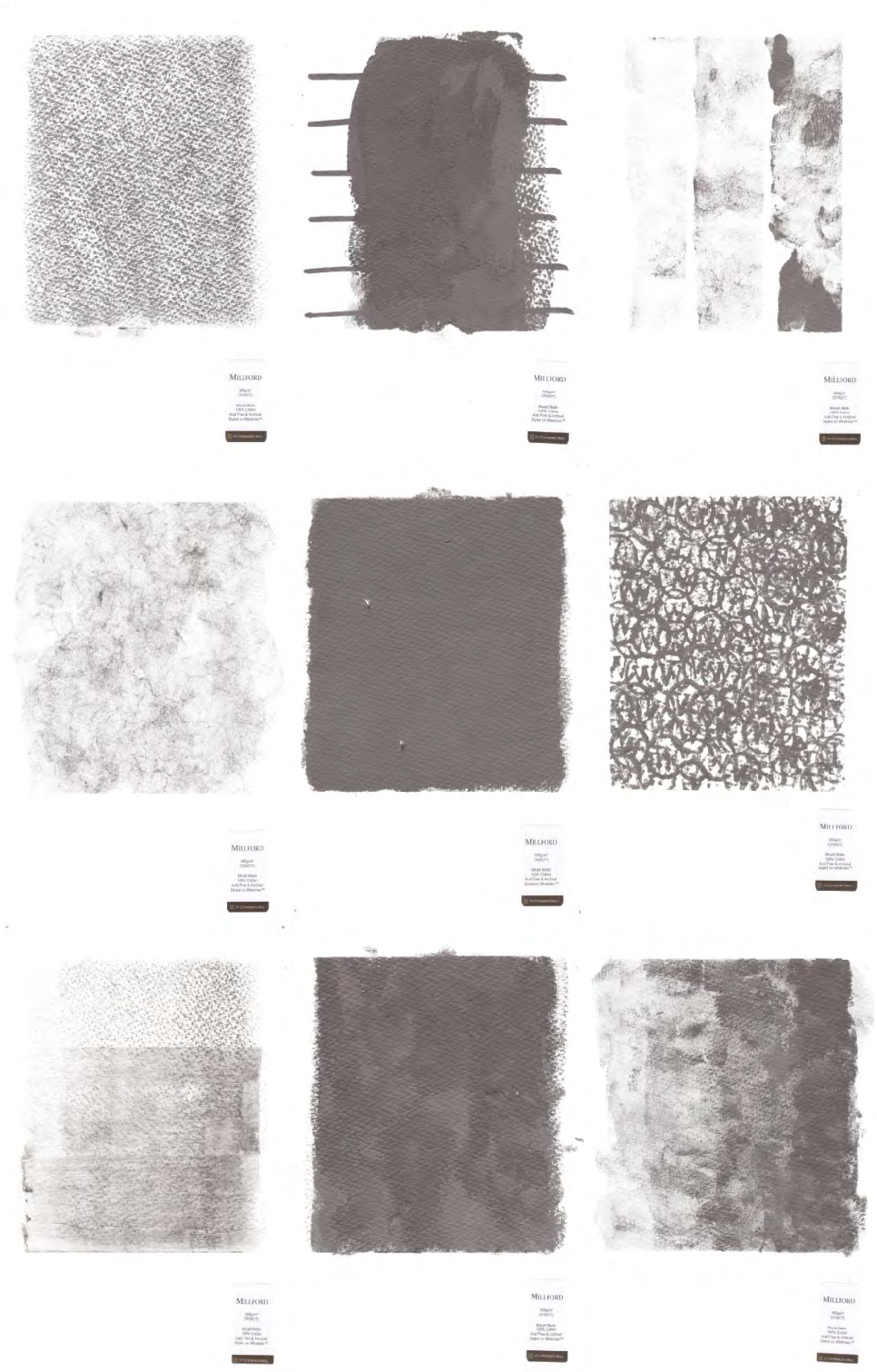


Figure 4.3c Ricardo Pistola. Drawing Propositions (Detail), 2015-2017.

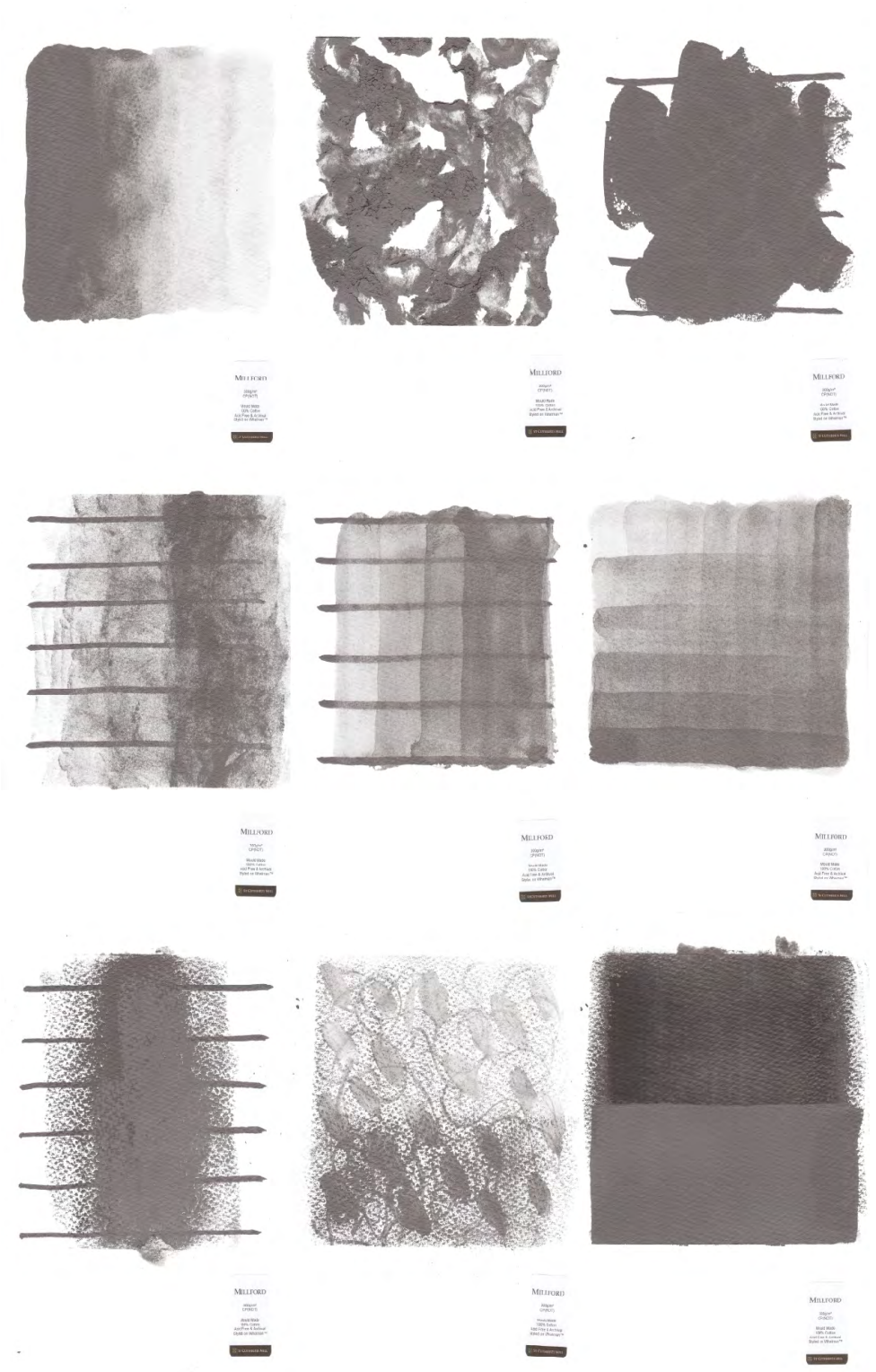

Figure 4.3d Ricardo Pistola. Drawing Propositions (Detail), 2015-2017.

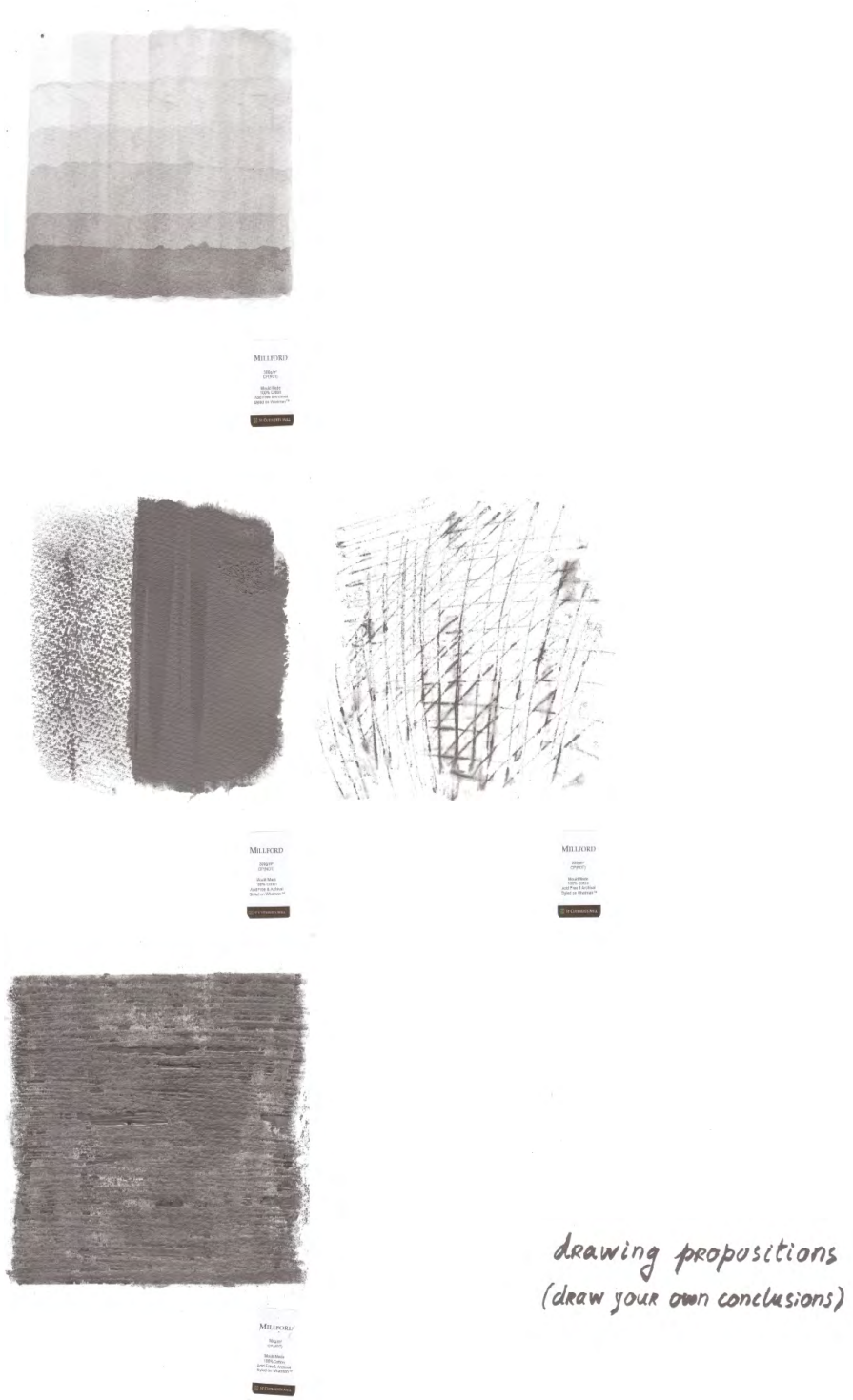


Figure 4.3e Ricardo Pistola. Drawing Propositions (Detail), 2015-2017.

*Drawing propositions*, in this research, express a movement that goes from the DI stage towards the DO stage. To recognize this movement, it is necessary to understand *to draw* as the procedures of mark making and as the selection of common procedures, which are perceptible in the drawings, and to consider *authority* related to logical units that belong to a given logical category and to the notion of authorship.

*Drawing Propositions* were conceived as a drawing series that highlights drawing procedures made with the purpose of acquiring knowledge about the properties of ArtGraf N°1 and its technical effects, which are sensorial and visual matters. However, the quality of their intelligibility, that is, the aspect of their logical form, resides in the drawing practice and is the consequence of the researcher's predisposition for a sequential process between the formulation of the *drawing propositions* and their execution. *Drawing Propositions* depict the researcher's experiments with ArtGraf N°1 and evidence, in the experimentation process, the will of the researcher to control the material and, simultaneously, to develop his drawing practice. This shared logical form between experiment, control and creative process, with all its metaphysical implications, reveals the intent to give them more than one reading, refusing differences of value between them by determining the unintelligibility of such disruptions of the drawing syntax. Therefore, the *drawing propositions* are recognized as instances of nonsense that unveil ineffable criteria of metaphysical insights.

Although the *drawing propositions* are nonsensical, in the sense that they fail in their symbolic dimension, and so they do not fulfil the expected logic by which we have become habituated to specific formal-symbolic resolutions, they are, yet, composed of logical units that emerge from and within the researcher's drawing practice and, in this sense, are more than mere drawing procedures. These logical units arise from the drawing practice and are fed by its continuity. Therefore, in the DI stage, the sequence proposed for the *drawing propositions* is in fact a disruption of the drawing syntax, in the sense that its diachronic components are organized according to a logic that serves the purpose of analysing the material's properties and is incompatible with the one they follow within the drawing practice. *Drawing propositions* are presented with the conviction that such ineffable dimensions exist in the drawing activity, hence the invitation to discover and reflect upon the emptiness of these putative propositions in all their versions and the encouragement to let go of the idea that drawing must possess any subject matter. *To draw* is addressed as an activity – of mark making – and the researcher, in the experimentation process, is shown succumbing to the temptation of thinking that he can go beyond the limits of the drawing language and its inherent thought.

*Drawing propositions* question the bipolarity present in the DwA process. In the DO stage, in which *to draw* is assumed as an action and *authority* as the notion of authorship, this drawing series finds its sense or meaningfulness in this relation. However, in a third moment, their sequential character and the logic of their diachronic components are again deconstructed through their non-organized presentation, creating a vacant position in its bipolarity that must be occupied by the reader. Thus, the *drawing propositions* are not conceived as a continuum string of images that constructs a narrative but as a complex of images that invites the reader to organize and give them meaning through the establishment of relations between them and their constant re-composition. This mobilizes a certain kind of practical knowledge, a know-how possessed by those who are able *to draw* or to compose based upon the assumption that our everyday understanding of images, from which the distinction between sense and nonsense arises, requires the authority of a theory or structure. One might say that this understanding is in fact ineffable and characterizes resolute readings. This assertion is understood in two senses: first, in a resolute reading, recognizing the distinction between sense and non-sense is not a matter of grasping ineffable truths about thought, language and reality, but rather the capacity to recognize when a drawing does not incorporate a determinate meaning; second, the practical know-how produces the ability to recognize nonsense and, in this way, understanding is assumed as ineffable, not because the drawings or its content are ineffable statements, but because understanding them manifests a practical ability to compose and/or to structure in the domain of aesthetic thought.

# STAGE 5: DC

## DRAWING CONCLUSIONS

DC (Drawing Conclusions) is the stage in which the researcher presents his reflections upon the work developed in this study. The collaborative work played a key role in the development of this study. The contact with the materials producers, the artists and all other participants involved in this research was fundamental in the findings regarding the properties of ArtGraf Nº1 and, also, in the development of the researcher's artistic practice. Therefore, this dissertation is seen more as the result of the interpersonal relationships established between the researcher and the individuals that contributed to the development of this study than as the result of an individual work.

The researcher's awareness, while carrying out this study, brought into this dissertation the search for a theoretical background that not only informed his research and writing, but also contributed for the development of his professional practice in the educational and artistic fields, as well as of his work in the drawing materials development field. Moreover, this study is perceived as a means to improve his professional performance in these same fields.

While developing this project, the presence of contingencies played a fundamental role in the development of the researcher's ability to act in contexts that are constrained by demands, which, in their turn, restrained his freedom of action. Therefore, this study presents contours and limitations that were induced by the industrial and academic contexts in which this research was held.

Working together with the producers offered the possibility to understand the functioning of the drawing materials industry and to perceive that, in this field, the conception of drawing is mainly restricted to technical categorizations informed by the drawing traditions.

However, when this study was carried out in the educational environment through the drawing workshops that took place in art schools, working together with the drawing teachers was likewise sometimes challenging, in the sense that they were inscribed in an institutionalized context, in which the approach to drawing is made through naturalized methodologies for the teaching of drawing. Therefore, the researcher's action was, on certain occasions, constrained and his role was relegated to the role of the observer, rather than the conductor of the activity. Although, and because the central focus of this research was the study of ArtGraf Nº1's properties, this occurrence did not affect the course of the study, since the graphite putty's attributes were nonetheless explored by the participants as well as by the researcher. Withal, these workshops allowed the researcher to have

contact with distinct methodologies in the teaching of drawing, which created a space and the means for reflection, bringing more awareness to the further development of his teaching activity.

While studying the ArtGraf N°1 characteristics and possible uses, working together with artists, drawing teachers and art students was fundamental, in the sense that if this study only integrated the researcher's artistic practice, many of the possibilities presented in this it would have not been contemplated. Again, the collaboration between individuals not only has a fundamental role in the acquisition of knowledge on a determinate subject, but also brings us into the domain of the educational relation. The educational relation goes beyond the boundaries of the school institution, it occurs through social practice, thus being present in all domains of life.

This study addresses the relevance of ArtGraf N°1 in the drawing practice in pedagogical and artistic contexts. Through the drawing workshops carried out in art schools, the researcher's experiments and the feedback from the artists on the use of ArtGraf N°1, it was proven that this material offered many possibilities of use. While developing this study, it was observed that the uniqueness of ArtGraf N°1 resided in its shapelessness, which brought into the drawing practice a more bodily implicated action. The fact that ArtGraf N°1 does not present a pre-defined form allows the drawer to create his own tool and this played a key role in the drawing practice in pedagogical contexts.

Since neither the students nor the drawing teachers had previous contact with ArtGraf N°1, working with it created a space of discovery and experimentation, which brought into the educational activity a greater proximity between teacher and students, in the sense that the teacher was not positioned as the holder of expert knowledge in the approach to the drawing material used. Thus, the use of ArtGraf N°1 allowed transforming the drawing activity in the pedagogical context into a shared activity, in which both teacher and students learned with each other by sharing their findings and enabling the development of knowledge on the possibilities of use of ArtGraf N°1 in the drawing practice. Therefore, ArtGraf N°1 is perceived in the pedagogical context as a drawing material that allows freedom and improvisation in the drawing practice, since it is not comparable to any of the materials that are commonly used in this context or immediately related to drawing techniques rooted in the drawing tradition. ArtGraf N°1 brought into this context the dimension of the unknown and the potential for new possibilities in the use of the graphite putty, thereby creating a space for knowledge exchange, a space in which each individual can contribute with his findings and from which inter-subjectivity arises.

While experimenting ArtGraf N°1 and through the feedback from the artists that participated in this study, the researcher recognized the pertinence of this drawing material in a variety of approaches to the drawing practice. Nevertheless, and because this study was held in an industrial context, the central focus of the study was its physical and mechanical properties. Thus, through the drawing procedures selected to explore the properties of ArtGraf N°1, it was concluded that the graphite putty generally presented a good performance according to the indicators established by the producers. However, the researcher considers that the versatility of ArtGraf N°1 offers the possibility to consider the drawing practice in a wider sense that goes beyond the conception of drawing as two-dimensional representation. ArtGraf N°1 presents characteristics that allow three-dimensional modelling and its use can also be comprehended in a performative dimension of the drawing practice (Figures 5.1, 5.2, 5.3).

Figure 5.1 Ricardo Pistola. Image from the performance at ECER2016.

Figure 5.2 Ricardo Pistola. Image from the performance at ECER2016.

Figure 5.3 Ricardo Pistola. Come and Go #1, 2016.

As a conclusion to this dissertation, three drawing scenarios are presented/proposed: *drawn conclusions*, *draw your own conclusions* and *keep on drawing*. The first consists of the art works developed in the drawing scenarios addressed in each stage of this research. The second is a proposal made by the researcher for the readers of this dissertation to become drawers and continue the DS: *drawing propositions*, started by the researcher. This *drawing scenario* is still not present in this document, since for its elaboration the collaboration of the readers is required. And, finally, the third and last scenario

presents art works made by the researcher in his artistic practice, beyond the scope of this study, and is therefore considered as a scenario that denotes and implies continuity.

# DRAWN CONCLUSIONS

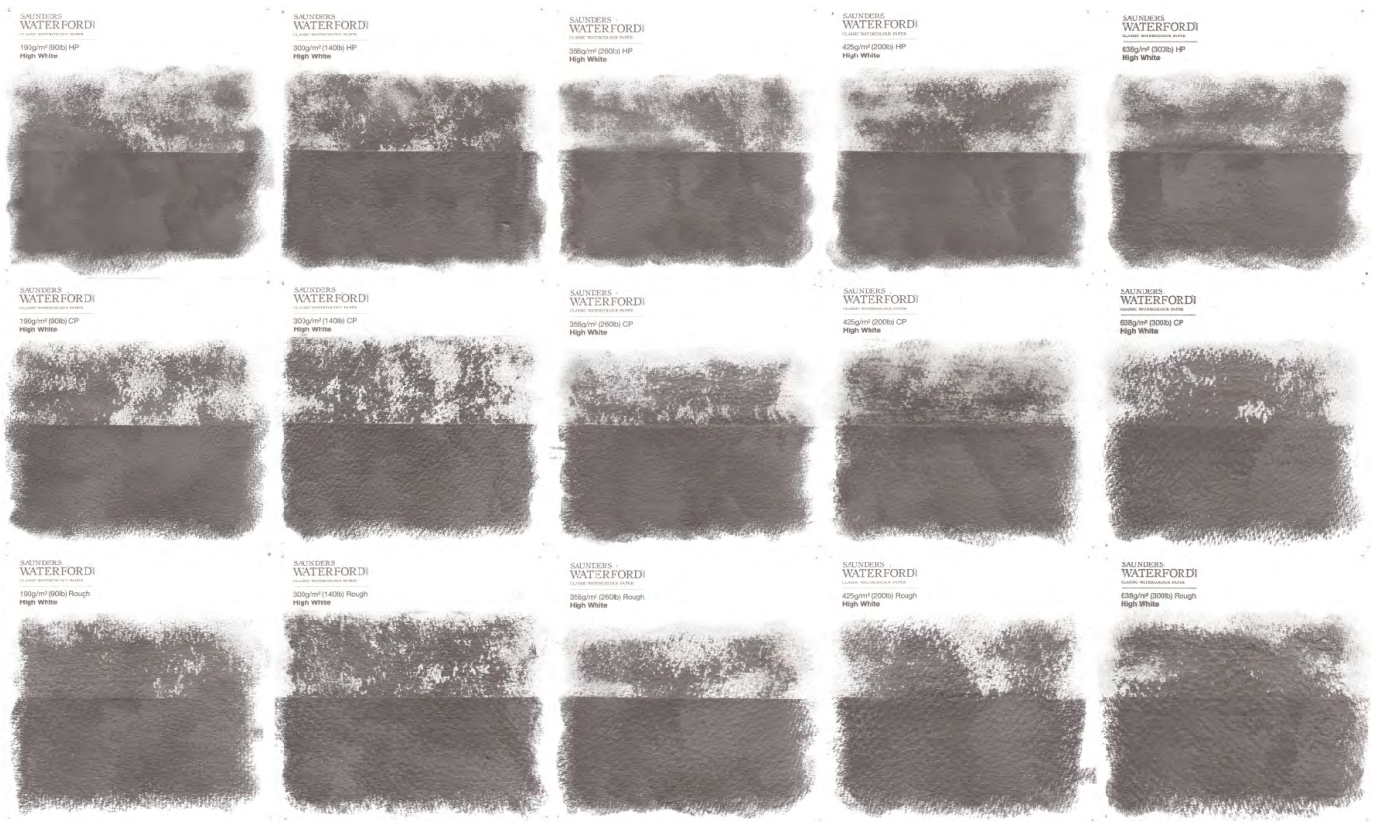


Figure 5.4 Ricardo Pistola. Untitled DC#1, 2016.

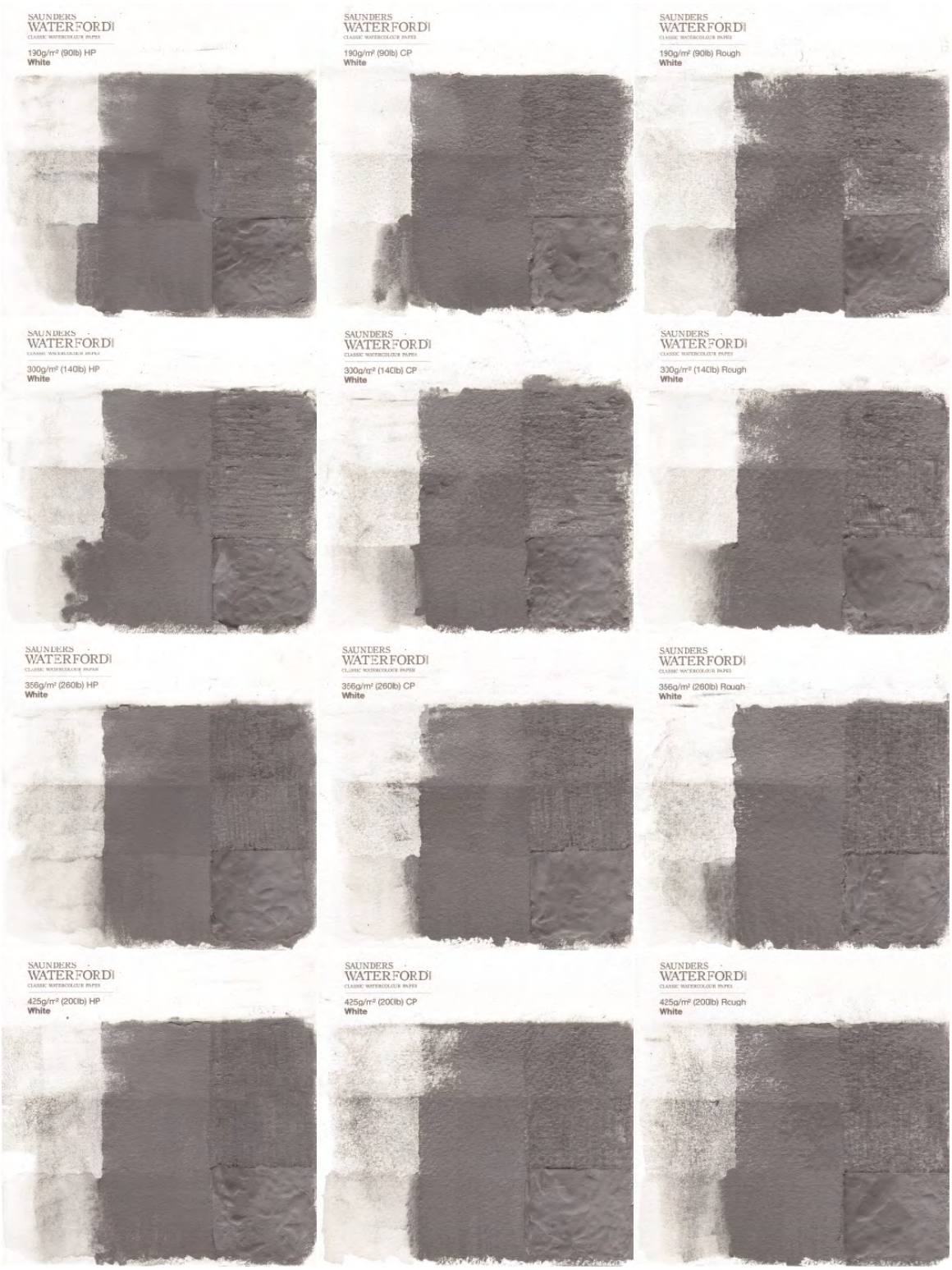


Figure 5.5a Ricardo Pistola. Untitled DC#2, 2017.


Figure 5.5b Ricardo Pistola. Untitled DC#2, 2017.

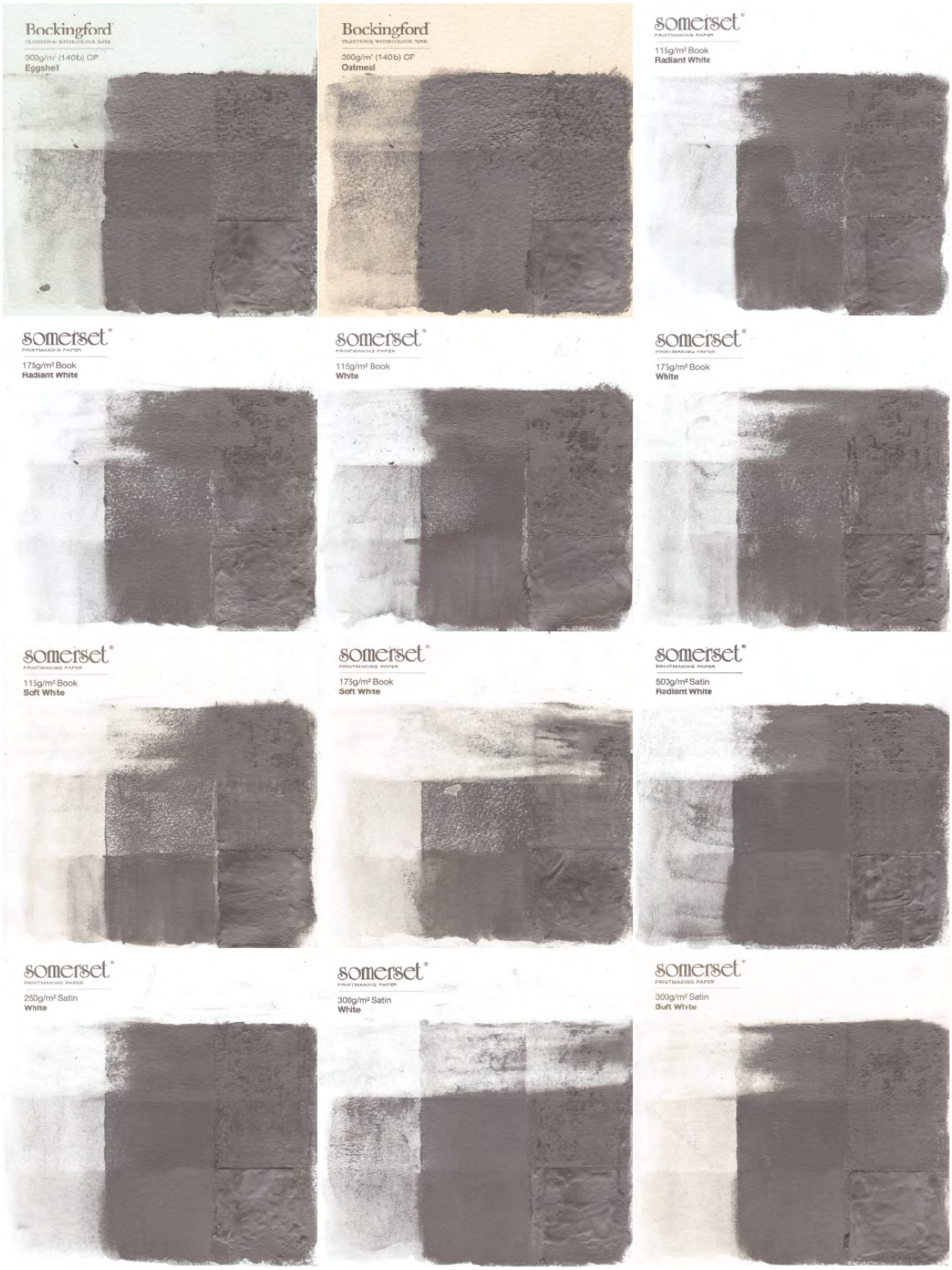


Figure 5.5c Ricardo Pistola. Untitled DC#2, 2017.

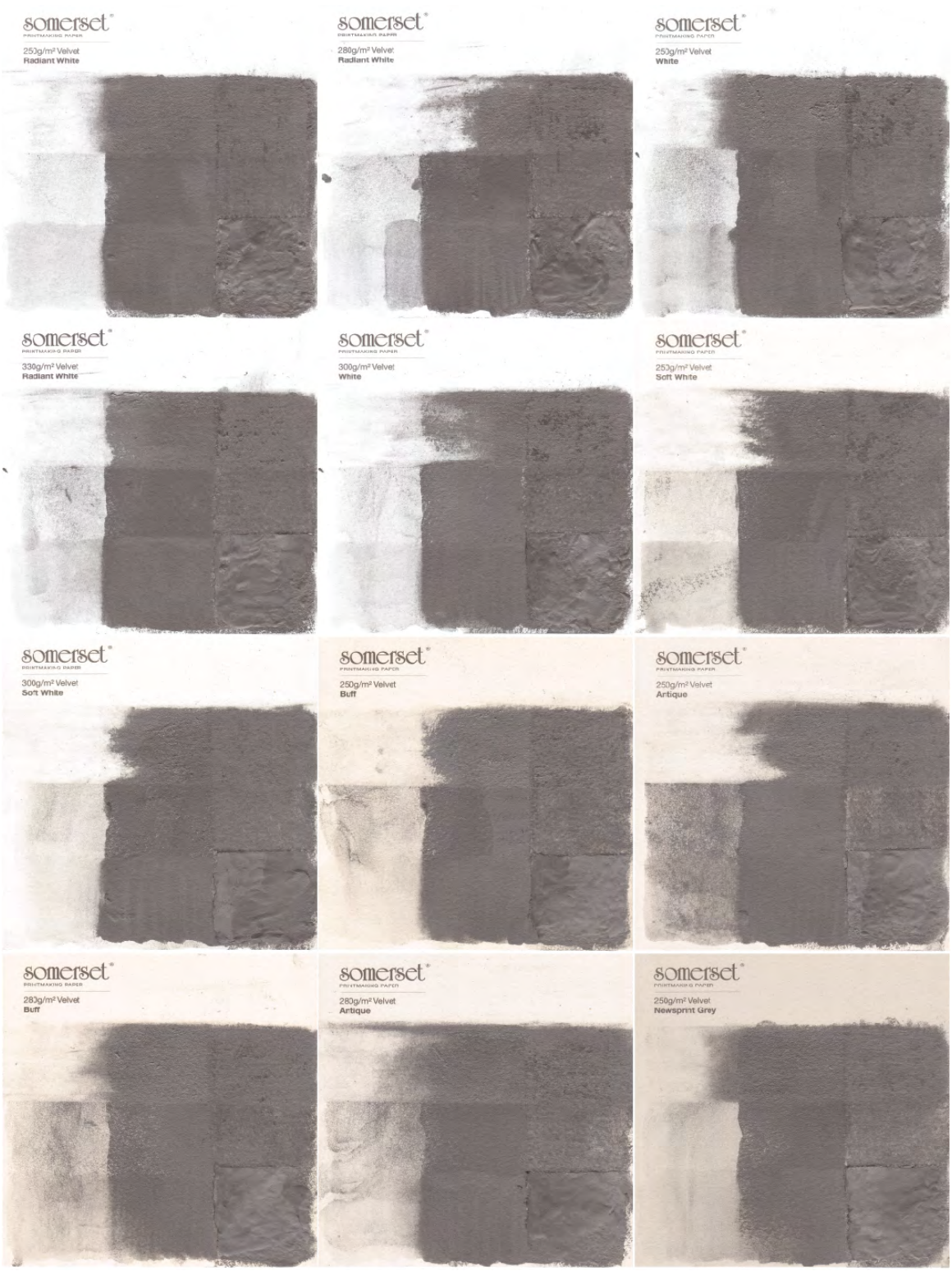


Figure 5.5d Ricardo Pistola. Untitled DC#2, 2017.

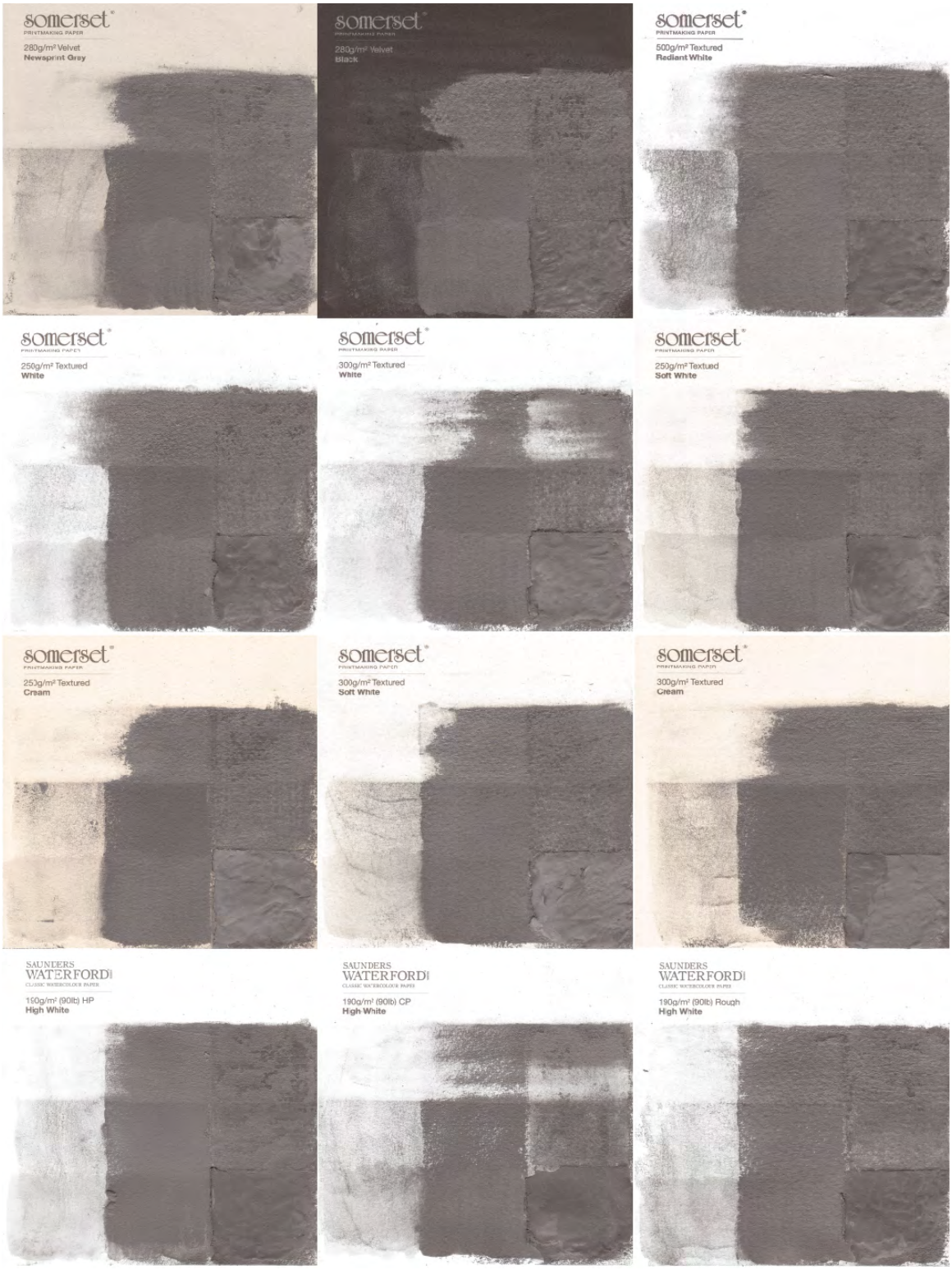


Figure 5.5e Ricardo Pistola. Untitled DC#2, 2017.

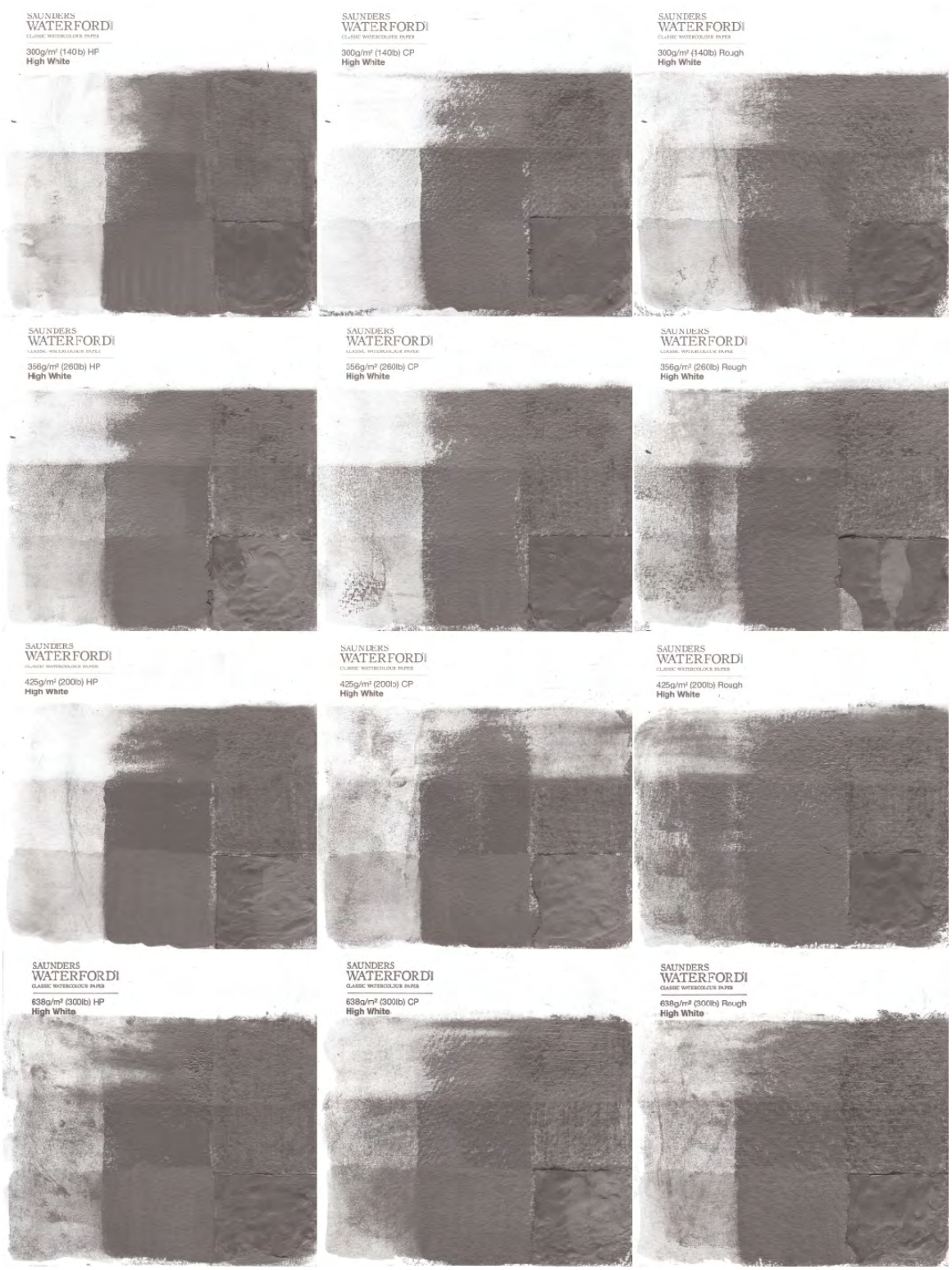


Figure 5.5f Ricardo Pistola. Untitled DC#2, 2017.

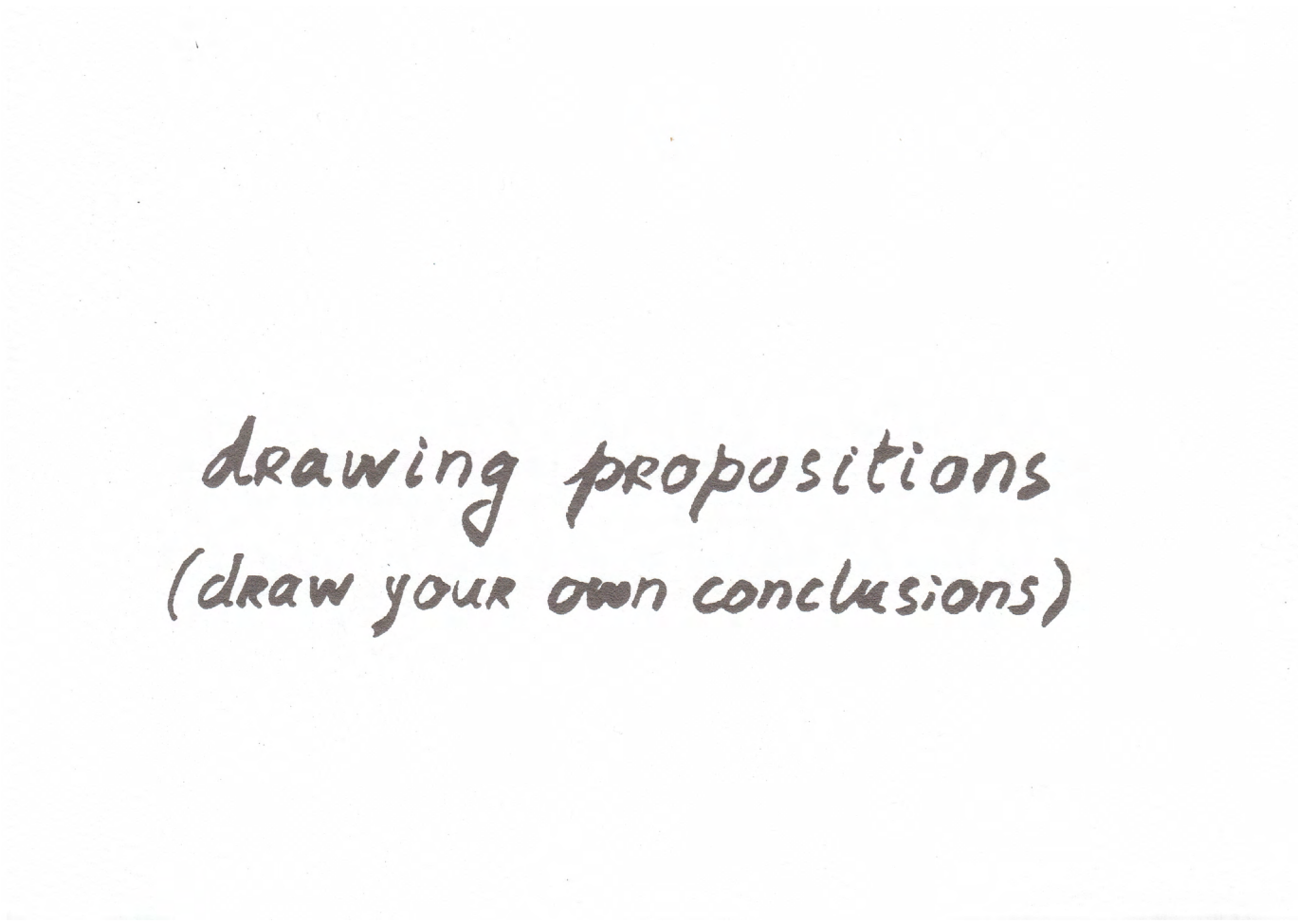


Figure 5.6 Ricardo Pistola. Drawing Propositions (draw your own conclusions), 2017.

KEEP ON DRAWING

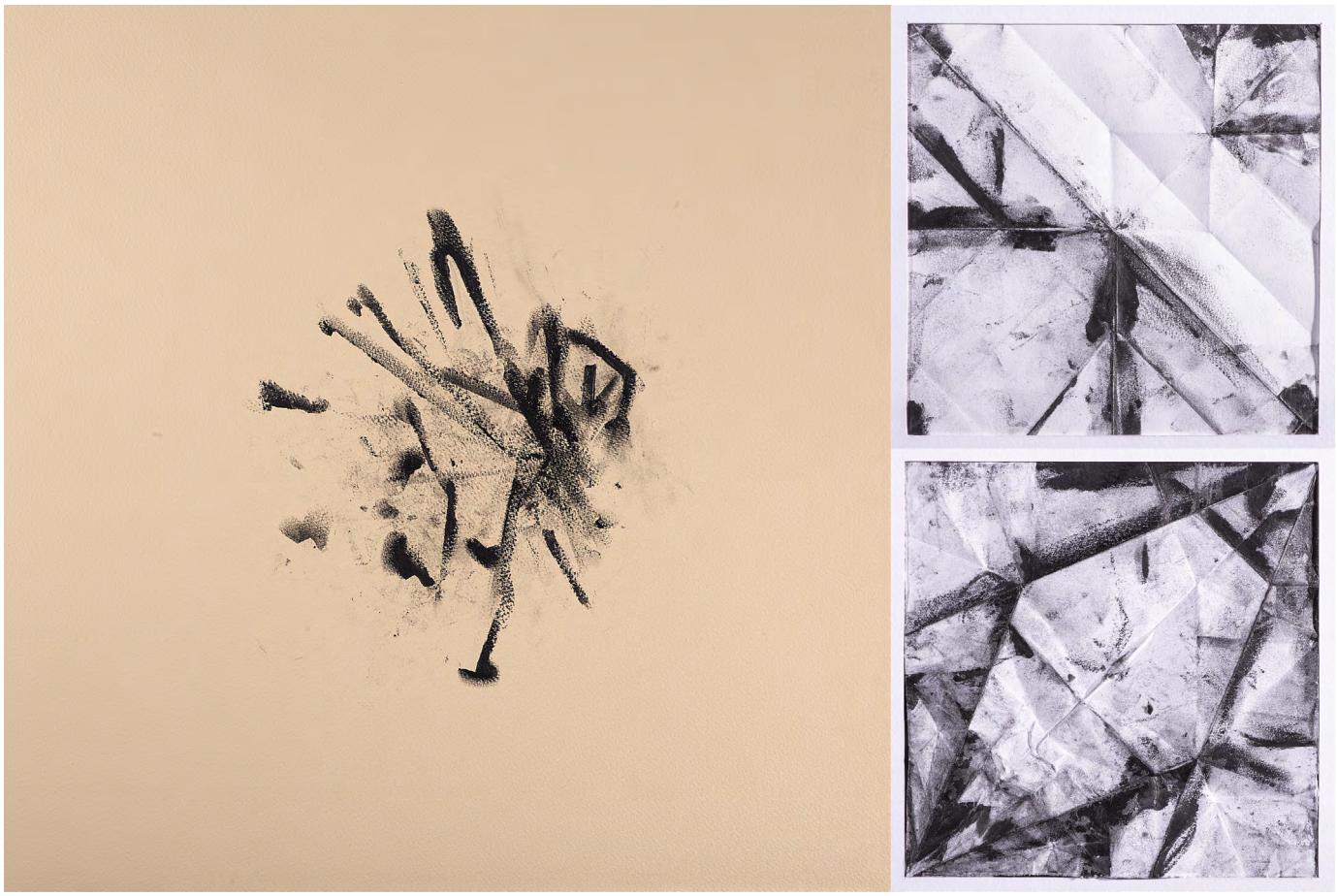

Figure 5.7 Ricardo Pistola. PrimATA, 2017.

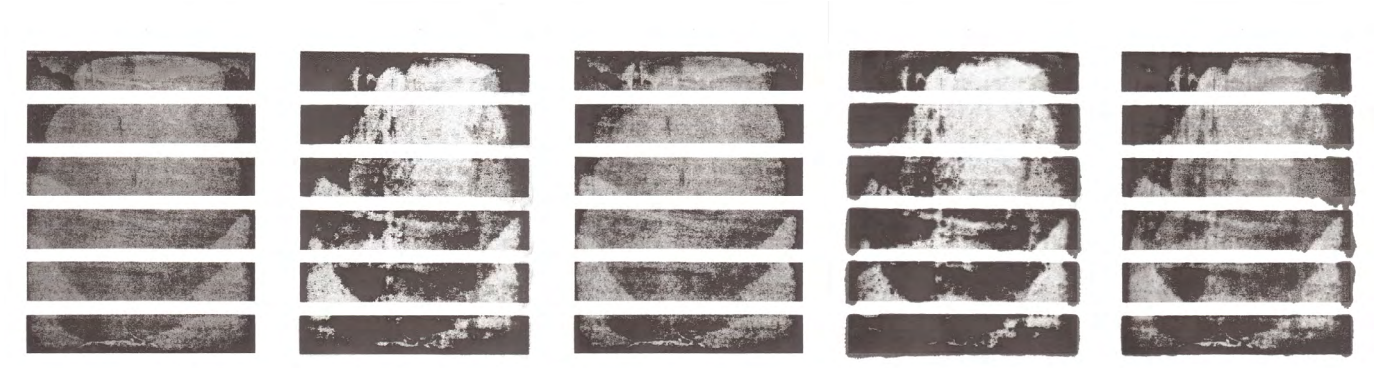

Figure 5.8 Ricardo Pistola. Screen, 2017.

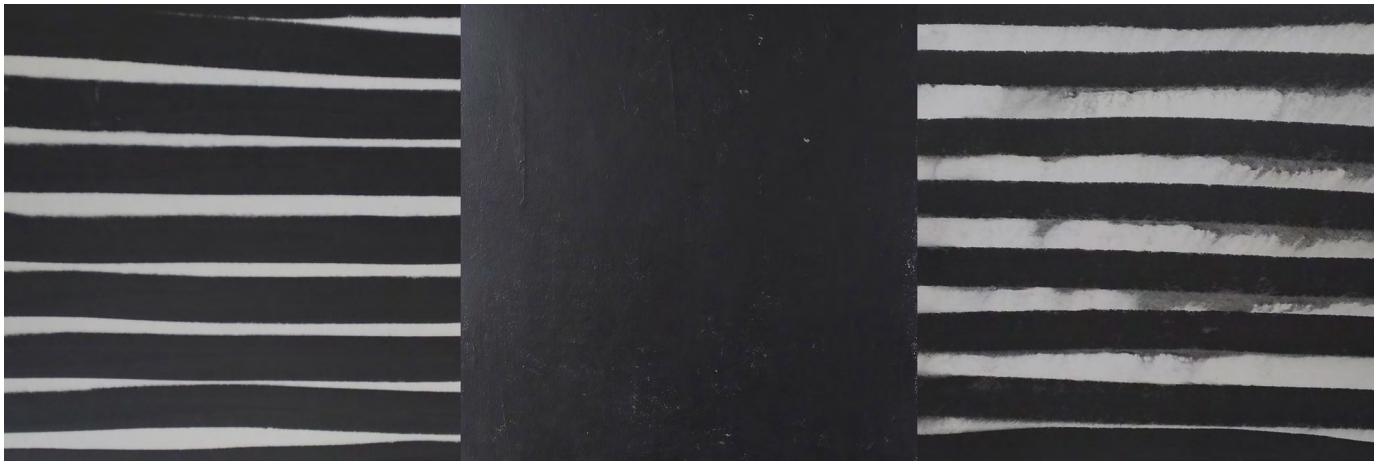

Figure 5.9 Ricardo Pistola. Composition #1, 2015.

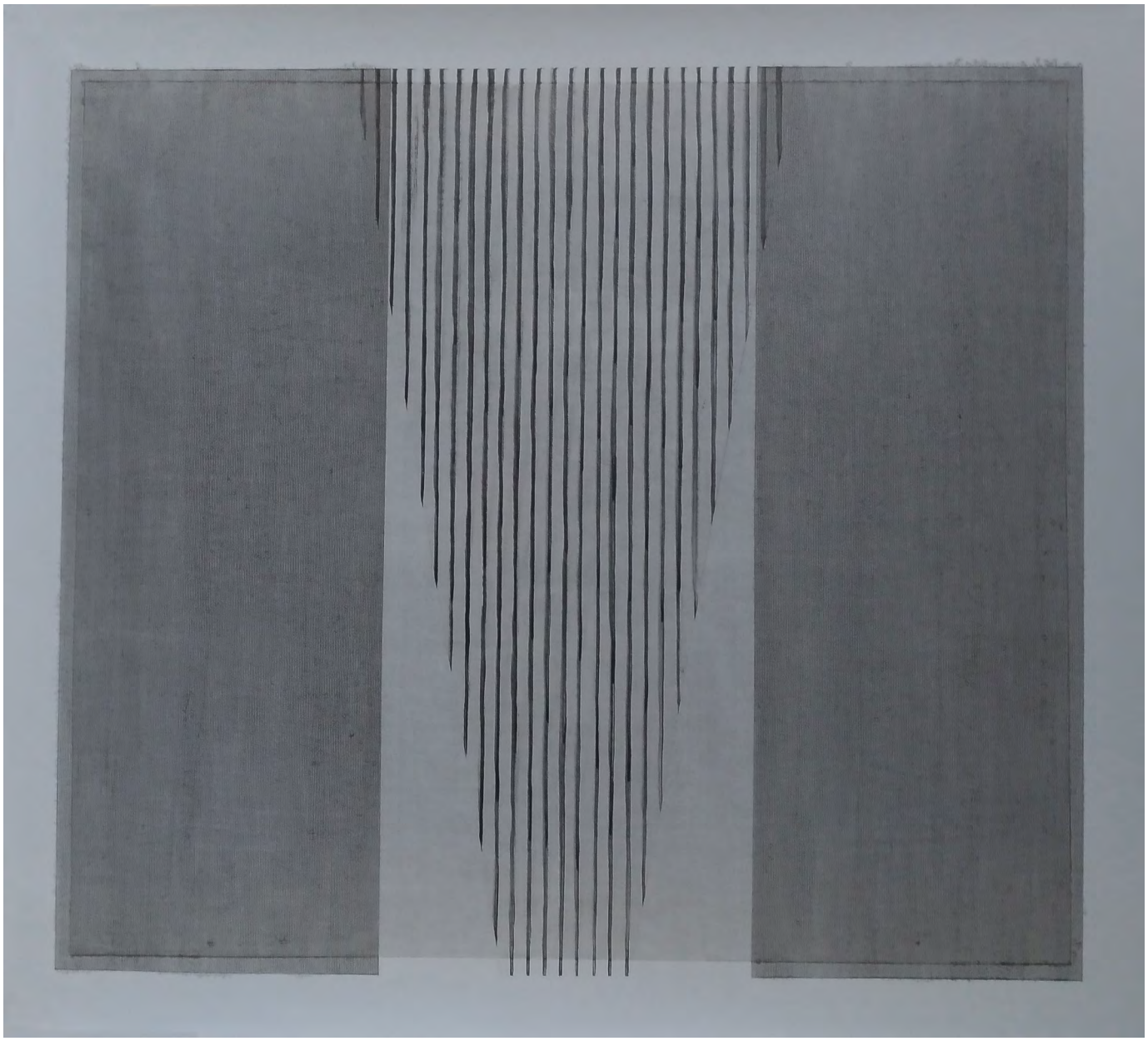

Figure 5.10 Ricardo Pistola. Untiltled, 2016.

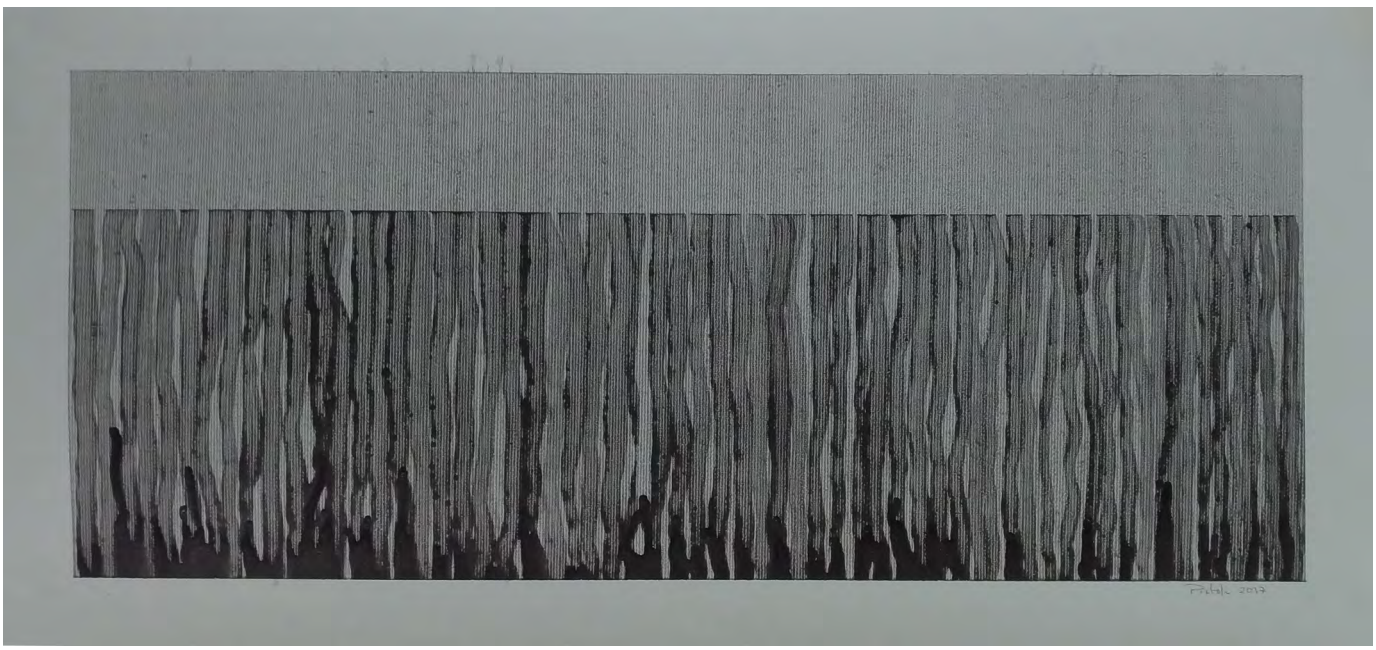

Figure 5.11 Ricardo Pistola. Untitled, 2016.

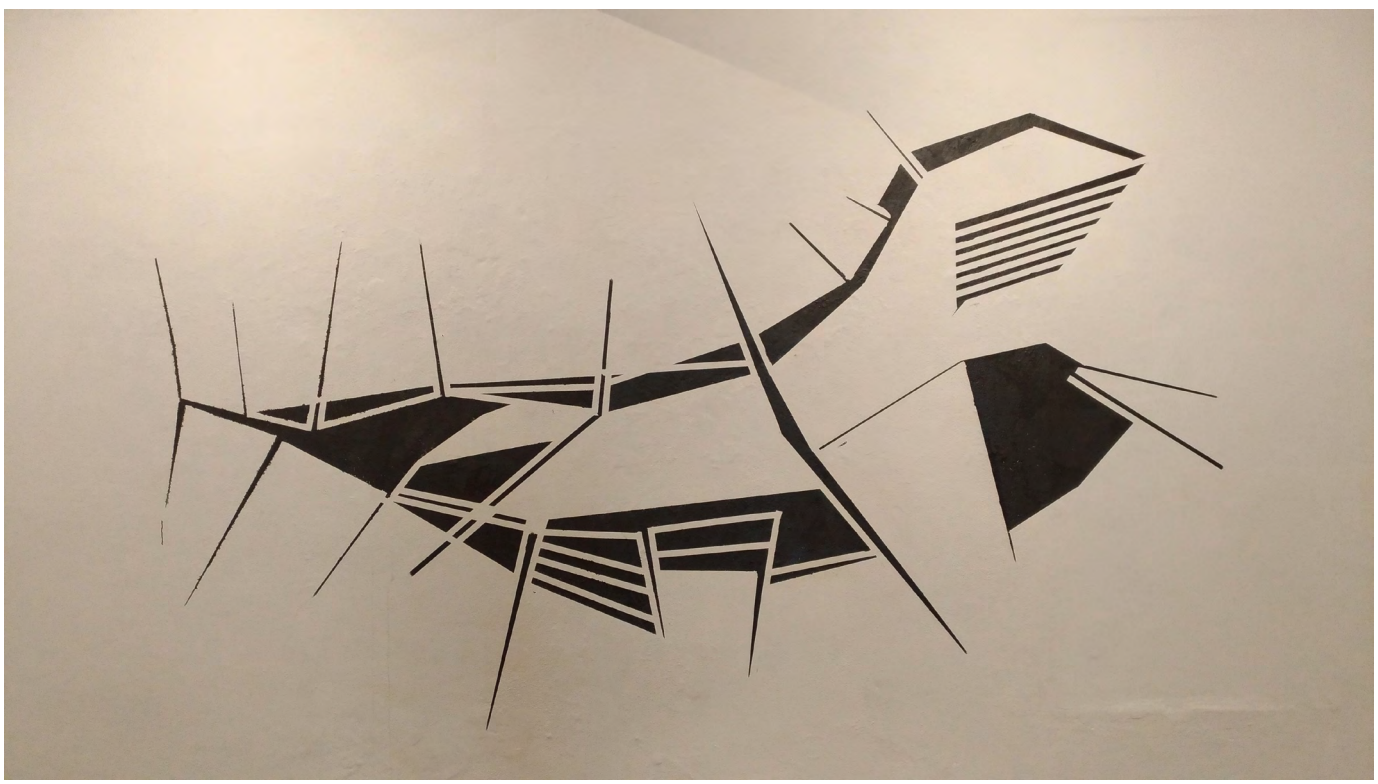

Figure 5.12 Ricardo Pistola. GEO, 2017

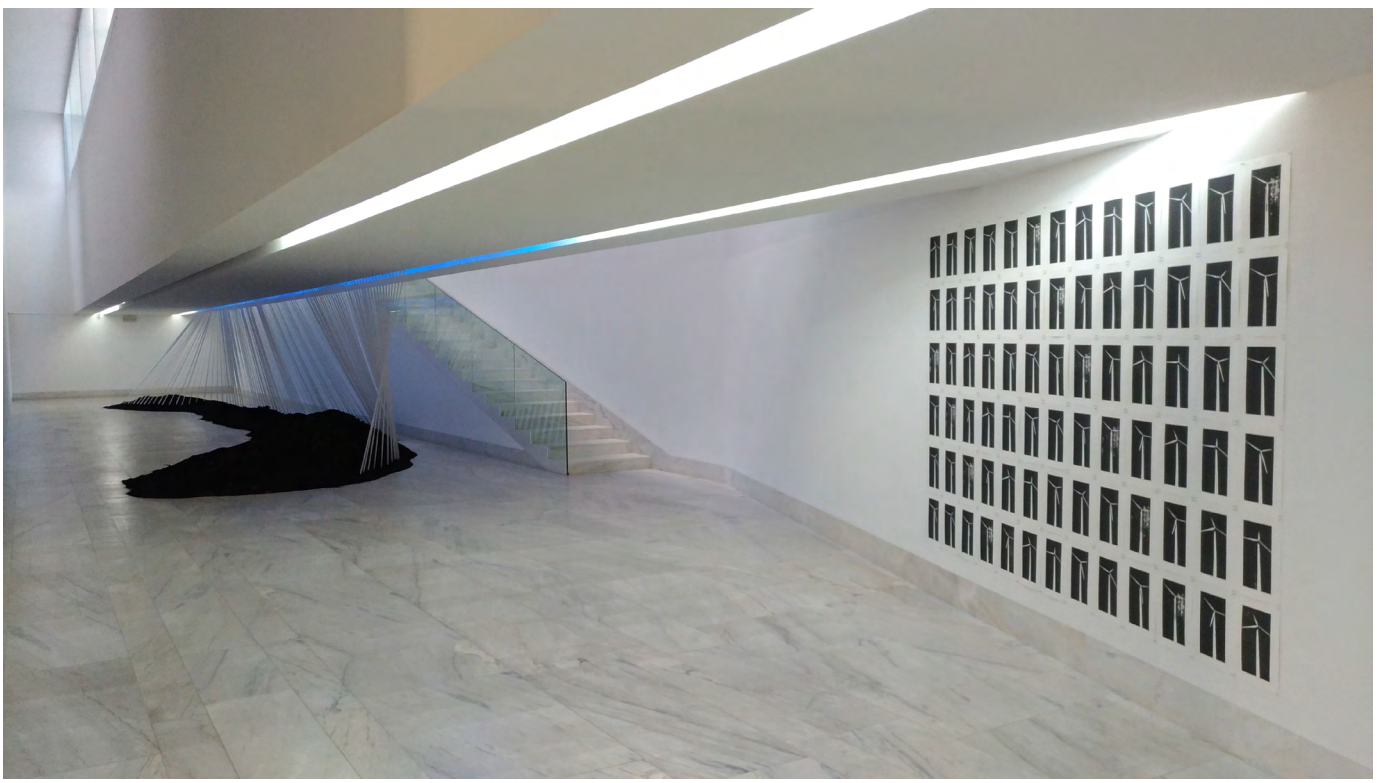

Figure 5.13 Ricardo Pistola. Instalation view Centro Artes Sines, 2017.

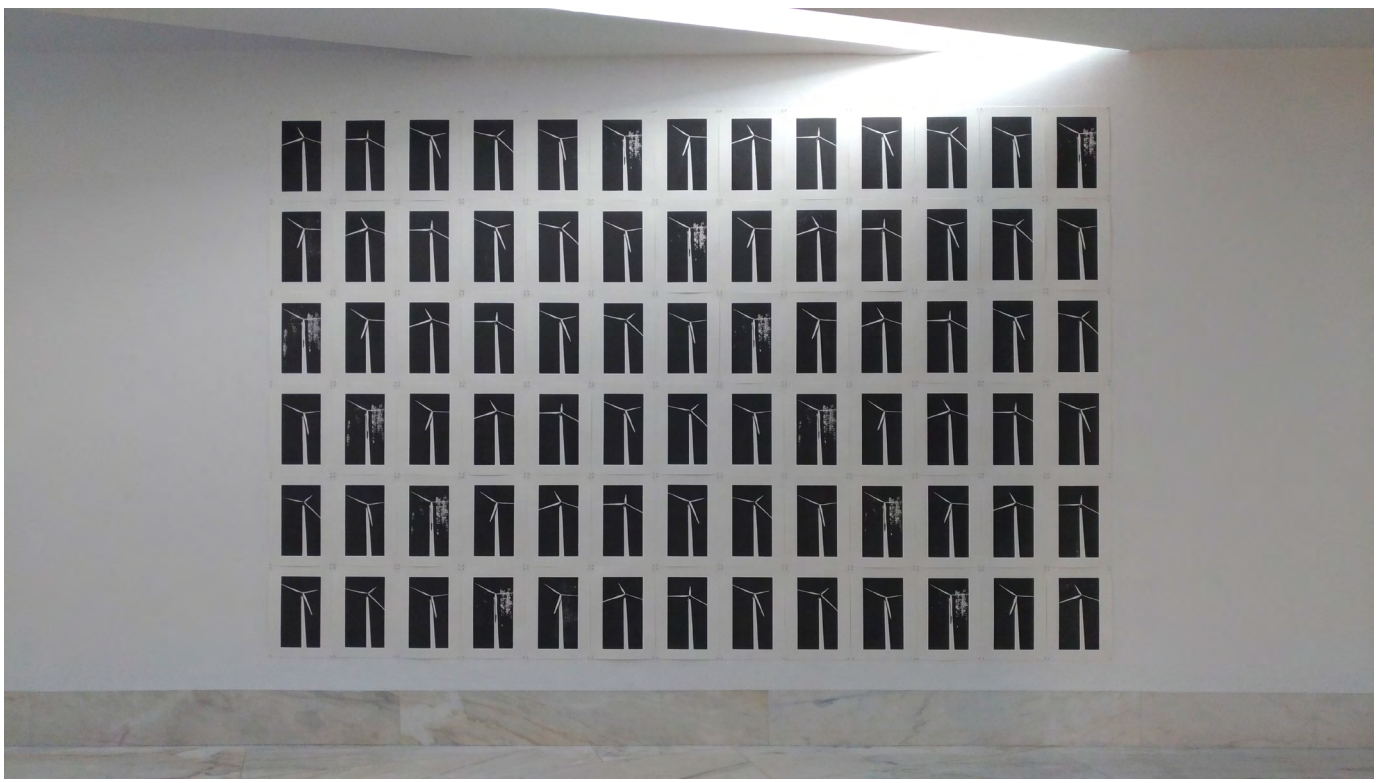

Figure 5.14 Ricardo Pistola. Iteration #1, 2017.

Figure 5.15 Ricardo Pistola. Come and Go #2, 2017.

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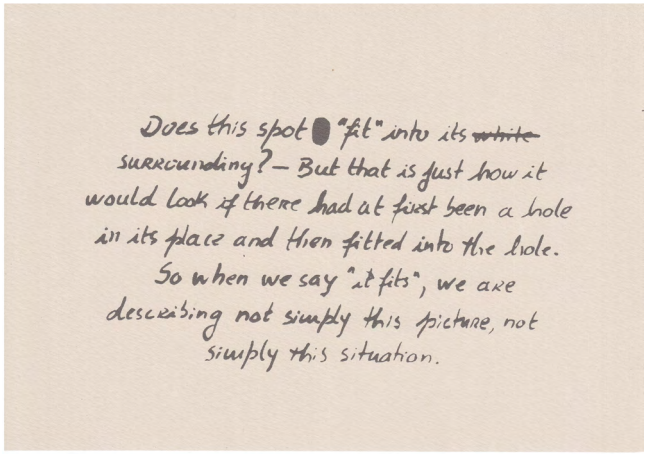
**ANNEXES**:

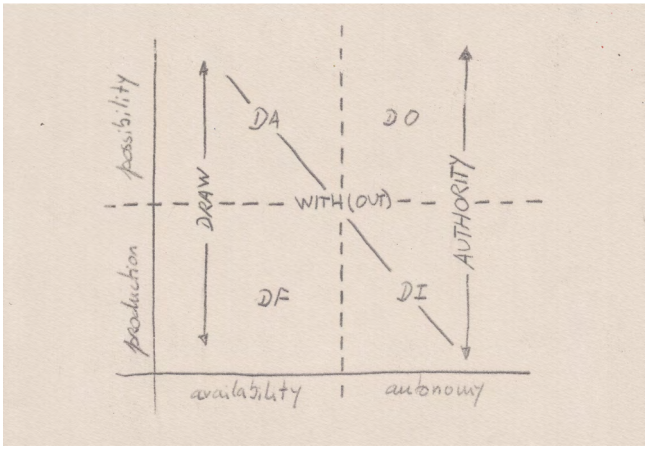



Annex 1

Ricardo Pistola. Wittgenstein §216, 2017.

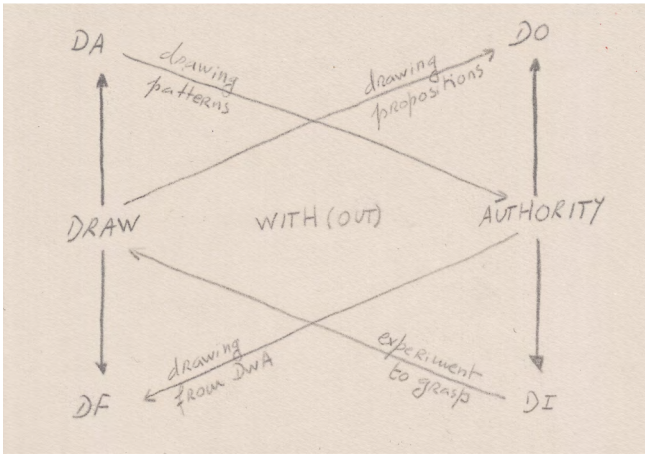

Annex 2

Ricardo Pistola. Focus #1, 2017.



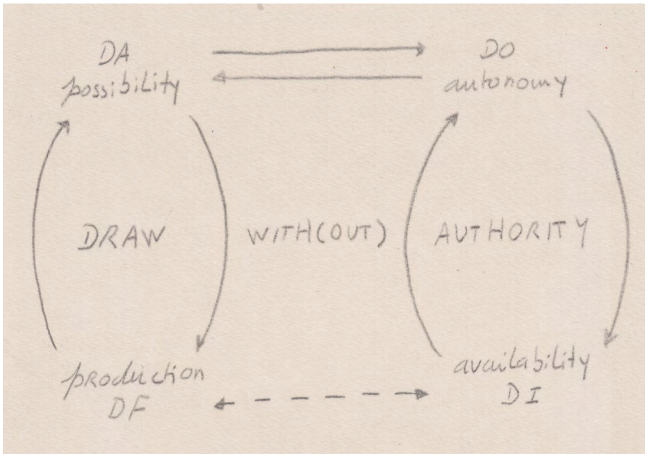

Annex 3

Ricardo Pistola. DwA diagram I, 2017.



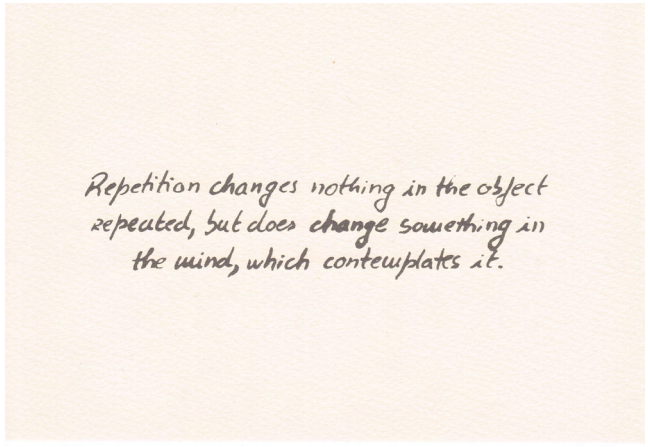

Annex 4

Ricardo Pistola. DwA diagram II, 2017.



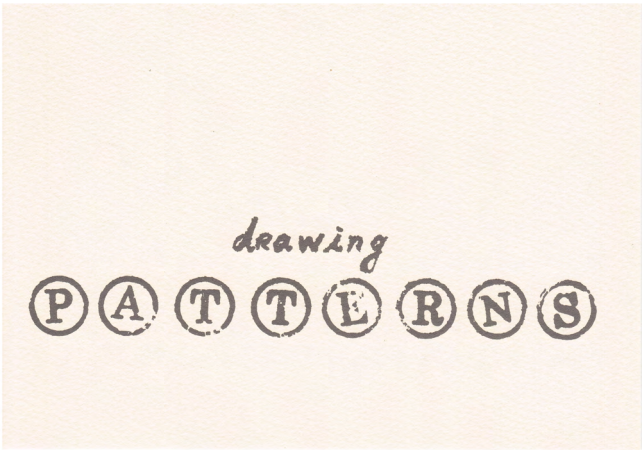

Annex 5

Ricardo Pistola. DwA diagram III, 2017.




Annex 6

Ricardo Pistola. Hume cited by Deleuze, 2017.

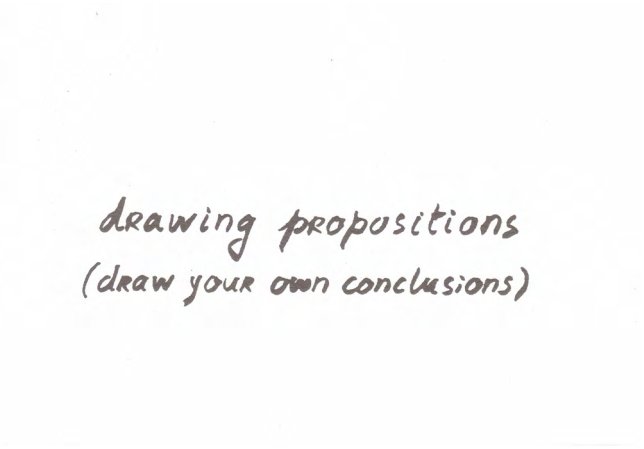



Annex 7

Ricardo Pistola. Drawing Patterns, 2017.


Annex 8

Ricardo Pistola. Untitled DC #1, 2017.




Annex 9

Ricardo Pistola. DP (draw your own conclusions),

2017.