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A Web-based Database for Drawings of Gods *When the Digitals Go Multicultural*

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Summary

This original web-based database was developed at the University of Lausanne (Switzerland) as part of the international research project “Drawings of gods”, which explores children’s representations of supernatural agents. Its primary purpose is to store and organize data and metadata to be easily accessible to all affiliated researchers. However, anyone interested in the matter can view the drawings, as they were made publicly available. At present, our corpus is composed of over 5’100 drawings collected in different parts of the world (i.e., Japan, Russia, Switzerland, Romania, USA and Iran) and yet constantly developing.

Keywords

drawing – representation – supernatural agent – children – database – multicultural

Drawings and the Study of Representations of God

Recent theoretical contributions to research on the image/concept of God¹ have revealed growing awareness of the complexity and multi-dimensional nature of this construct, as well as a need for multiple measures (Boyatzis, 2005; Gibson, 2008; Hill, 2005; Hoffman, Knight, Boscoe-Huffman, & Stewart, 2008). In this regard, the use of qualitative measures such as drawings and narratives can have a great value to the exploration of this complex issue. The use of drawing has the potential to go beyond some of the limitations of survey-based quantitative methods. For instance, it allows the respondents to express and convey their ideas in their own way (Gibson, 2008). The drawing technique is particularly appropriate for young children or others who lack the verbal skills to express their ideas and thoughts; the applicability of the technique extends to those for whom the experience of god is important, but linguistically ineffable. Finally, the use of such a method may help fill in the gaps observed in research on cultural and interfaith variations of children’s representations of supernatural agents.

As with any method, there are some drawbacks and caveats to consider. One of the most important is contextual sensitivity of the drawing process (Streib, 2000). Drawings can be influenced by perceived or real drawings abilities,

1 Considering the multicultural and multireligious framework of our project we use the generic term « god » with a lowercase ‘g’. The capital letter for the word « God » is retained when we are referring to the work of other authors who have specifically used this spelling.

mood swings, time and place constraints and, in a group context, by peers. In view of this and other constraints, drawings are not considered as direct reproductions of inner worlds but representations of thoughts, imagination and ideas about the complex cultural object of god or other supernatural agents.

A Web-based Database for “Drawings of Gods.” Corpus of the Database

The “Drawings of gods” Web-Based Database was developed in 2009 as part of the research project “Drawings of gods: A Multicultural and Interdisciplinary Approach of Children’s Representations of Supernatural Agents” by Professor Pierre-Yves Brandt at the University of Lausanne (Switzerland). The main focus of this project is twofold. First, it comprises cross-cultural comparisons and cognitive development as they could shed light on how children acquire religious concepts both in religious and non-religious environments. A second central point may be for the role of images and visual culture in the conveyance of religious traditions to be more deeply understood.

The database began to take shape with 143 children’s drawings collected in 2003-2004 by Yuko Kagata in Japan in public and Buddhist schools (Tokyo, Fukushima, Chiba, and Kyoto). Then, some 1015 drawings from different regions of French-speaking Switzerland were added to the corpus between 2005 and 2016. These range from public schools to Catholic and Protestant churches, with subsets such as Mennonite respondents. During the University of Lausanne 2014 Doors Open Days (see *Mystères de l’UNIL* <http://wp.unil.ch/mysteres/>), in addition to the pictures drawn by children, we also collected pictures of god as drawn by the parents of the children.

Between 2008 and 2015, 755 drawings were collected in two regions of Russia: Buryatia (Eastern Siberia) and Saint Petersburg. Children from two different ethnicities participated in our study: Buryat children—who come mostly from Buddhist family—and Russian Slavic children. The majority of the latter comes from Orthodox Christian families. Moreover, longitudinal data (up to three drawings collected over 6 or 7 years) are available for this subset: 125 children participated twice, and 68 children drew on a third occasion. In Saint Petersburg, drawings were collected in public schools and Russian Orthodox churches. Some preliminary results analysing drawings from Buryatia (Dandarova, 2013) and Japan (Brandt, Kagata Spitteler, & Gilliéron Paléoloque, 2009) are already available.

Camelia Puzdriac and colleagues gathered over 400 drawings in two regions of Romania: Moldavia (Iași) and Transylvania (Brașov) (2010-2013). More recently, a large sample of drawings from Iran ($N = 3000$; year 2014) were

collected under the supervision of Mohammad Khodayarifard and uploaded to the database. These important additions to the project collection come from public schools of six cities from various regions of Iran, including Tehran. The database was also enriched with 954 drawings from the United States (Kevin Ladd, et al., 1998). These drawings were mostly done by the children at various religious (Christian) institutions.

As part of the ongoing development of the database, drawings collected by researchers from Brazil and The Netherlands will soon be included in the database. As for future contributions, researchers from Greece and France as well as Swiss colleagues working in Nepal are expected to take part in this project.

Online Interface and the Access to the Database

The interface of the database is structured in both French and English (<http://ddd.unil.ch>). Besides drawings, it includes picture descriptions provided by participants, their comments given verbally (if available) and questionnaires completed by them. The interface allows searching the images by country and region, age, sex, type of school, and the precise wordings of the given task. The results can be sorted by the date of upload, alphabetically by image codes, etc. The full functions of the interface are described in the article "Webpage Drawings of gods" "How to do" (<http://ddd.unil.ch/index.php?articles>).

The database has three types of access for researchers. The first level of access does not require any identification; however, at this level, only drawings and picture descriptions provided by subjects are available. The second type of access is for members of the University of Lausanne and identified users, that is users who have requested access. Besides drawings and descriptions, they have access to questionnaires. Finally, scholars who contribute data to the research project have access to different functions such as upload, annotation, and various options of download.

Homogeneity of Data and Standardization of the Task

In order to ensure reliable observations when comparing samples of drawings produced in various environments, future conditions of data collection have to be strictly similar. Thus, using a standardized task wording remains a central issue, and can be quite challenging when cultural and linguistic differences are involved. Moreover, the word "god" can present itself under various forms within the same language, tapping into very different concepts. For example,

both “burkhan” and “bog” mean “god” in Russian, although the former belongs to a Buddhist tradition (in Buryatia) and the latter refers to a more general concept. Another point of consideration deals with avoiding the use of gender-specific pronouns in order not to prompt certain types of representations.

Furthermore, caution must be used regarding the precise task even with children sharing a similar language and cultural background, as the use of slightly different instructions can lead to contrasting outcomes. As a case in point, we will focus on French-speaking Switzerland, where two different methods of analysis permitted us to evaluate the differential influence of two types of task wording. The first type reads as follows: “Have you ever heard of the word ‘god’? Could you draw, please? You can draw anything that comes up to your mind when you think of the word ‘god.’” The second type of wording reads as follows: “Have you ever heard of the word ‘god’? Now close your eyes and try to imagine, then draw. Do not look over to your colleagues’ drawings, because I would like to know how *you* imagine *or* think. Draw as you like and as you imagine.” As for the implements provided, those were similar for all participants: a sheet of drawing paper A4 format, a gray crayon, a ten-colour set of wax pastels and an eraser.

First, a set of drawings ($N = 127$) using the first type of task wording was collected in 2005, and another set ($N = 196$) using the second type of instructions was obtained from 2008–2010. Both samples were similar with regard to age (6–15 years), gender (52% female and 48% male participants in the former; 52% female and 48% male participants in the latter) and collection context (40.9% in public schools and 59.1% in Sunday schools in the former; 49% in public schools and 51% in Sunday schools in the latter). A binomial logistic regression showed no significant difference between samples, Wald’s $\chi^2(1) = 1.224$, $p = .269$. All drawings were coded with regard to the number of god representations and their nature (anthropomorphic or other). The number of cases concerned with the absence of representation of god was recorded: 47 cases (37%) in the 2005 sample, and 5 cases (2.6%) in the 2008–2010 sample. The difference between samples was significant, $\chi^2(1) = 67.739$, $p < .001$. However, when a figure of god was actually represented, a similar pattern was followed in both samples as concerns the use of anthropomorphic, non-anthropomorphic and mixed representations: respectively, 83.8% in the 2005 sample, and 84.3% in the 2008–2010 sample; 13.8% (2005) and 12% (2008–2010); 2.5% (2005) and 3.1% (2008–2010).

The second method of comparing the two versions of instructions relies on automated drawing analysis. More specifically, Konyushkova et al. (in preparation)—at the Images and Visual Representation Lab (EPFL)—carried out gravity mass and colour intensity comparisons on the two aforementioned

datasets. Besides a difference in the shape of the gravity vectors, there was a significant difference in the absolute proportion of the foreground: 31.6% and 16.7% in the 2005 and 2008-2010 datasets, respectively. Then colour intensity analysis revealed that green and yellow tended to congregate towards the centre in the 2008-2010 sample, with green inclined to the bottom and yellow to the top. On the contrary, those colours were more generally spread over the drawing in the 2005 sample.

To conclude, the two methods that were used revealed differences between samples, reflecting incongruity in the nature of data elicited by two slightly different types of instruction. These results indicate the necessity of considering the task carefully. Indeed, while the 2008-2010 sample was specifically asked to draw god, the 2005 sample's instructions seem much more open and wide-ranging, possibly generating unintended and loose associations.

Development of Drawing Annotation Interface

The necessity of assessing thousands of drawings led us to consider automated data processing. While algorithms and software tools for automated image analysis of photographic pictures are expanding, the less refined nature of children's drawings makes analysis and object detection significantly more challenging. Thus, in order to tackle this issue, we decided that these complex objects should receive consistent but fast manual annotations. These would serve as a basis for further automated computational approaches (e.g., object extraction, pattern recognition). Consequently, a tool (i.e., Gauntlet; website: <http://d2d.vital-it.ch>) that would grant us accurate as well as time-saving drawing annotations was developed through the common work of psychologists and bioinformatics specialists. Besides the aforementioned purposes, this annotation tool presents other important benefits. First, it provides researchers with common semantics from a set of predefined features displayed along a hierarchical tree on an online interface. Second, it allows the extraction of geometric information (i.e., location, surface) on any annotated aspect of a drawing. Finally, the tool remains flexible and features not yet coded may later be included, depending on new data encountered.

Future Direction

The database is expanding with the addition of drawings done by children from still more countries and cultures. The breadth of representations included thus

far offers researchers the opportunity to formulate and explore novel questions. We invite and encourage scholars to collaborate in the further development of the database as well as to make use of its various possibilities in their own research projects.

To summarize, we assume that as long as appropriate tools and methods are employed, the combined utilization of drawings and narratives as research material may lead to some deeper insight into the multiplicity of children's representations of supernatural agents. Multicultural and multireligious data will promote the further refinement of this issue and we hope that the present effort will contribute significantly toward that goal.

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