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Discuss and Critically Examine the Role of Culture in Child Development, focusing on Children's Drawing.

"[Drawing is] *to evoke in oneself a feeling one has once experienced, and… by means of movements, lines, colours, sounds… transmit[s] that feeling that others may experience the same feeling – this is the activity of art.*" (**Tolstoy, 1896/1995**)

Over a century ago, Tolstoy identified the inter-subjective nature of an artists' drawing; it communicates a message to onlookers through the graphical medium to convey meaning. Although **Tolstoy** may have overemphasised the role of emotion in reading someone's art, this premise has been largely honoured and built upon by psychologists. Drawings are commonly employed as a means of interpreting cognitive and conceptual development in childhood (**Driessnack, 2005**). Leading psychological theories regarding drawing development have typically supported a predominantly universal or relative perspective. Perceptual theories (e.g. Guerin et al., 1999) have emphasised the role of universal perception in the development and expression of drawing ability, implying that a drawing is constructed to reflect our visual reality (see **Cohn, 2012**). Cultural-convention theories (e.g. Wilson, 1997), conversely, challenged this account and highlighted the many differences evident in children's drawings across cultures and time; however, this perspective does not specify a cognitive mechanism exploring how the universal ability originates initially (**Cohn, 2012**). A contemporary view argues that drawing ability is innate, with a common cognitive architecture, but like spoken language, possesses discrete and unique qualities contained within cultural and temporal contexts (**Cohn, 2012**). Cross-cultural research investigating the effect of environment on children's drawings development support this general framework. Where the humans species is born with comparable biological and cognitive capability though (**Keller, 2008**), culture clearly has differential effects in the attainment of drawing 'fluency' (**Cohn, 2012**). This outcome can be systematically explained using Developmental Niche (**Super & Harkness, 1986**).

Before cross-cultural comparison, a cognitive model of 'drawing as language' with universal application to culture will be explored. **Cohn** (**2012**) treats drawing as the third language, side-by-side with spoken and gestural. When the drawing process begins, (see **Figure: 1**) graphic-schemas (simple items: shapes, lines) stored in the graphic-lexicon are combined using rules from graphic syntax. This combined information is held in working memory as the mental conception of the drawing goal. Drawing is then fulfilled using production scripts (construction instructions) enacted through motor skills (see **Figure: 2**). This drawing system resides concurrently with spoken language (**Cohn, 2012**).[1] This system is universal to all humans; measured variances result from different graphic schema and syntax derived from unique environments; similarly, commonalities in drawings reflect common schema shared across different cultures, with one example being 'stickmen'.

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[1] Recent brain-imaging studies have found synchronous neural activity in both drawing and spoken language (**Makuuchi, 2010**), thus substantiating the language status drawing is awarded (**Cohn, 2012**).

Figure 1: *a cognitive model showing the interactions between perceptual, drawing and conceptual systems to fulfil universal drawing capability* (From **Cohn**, **2012**, **p.172**)
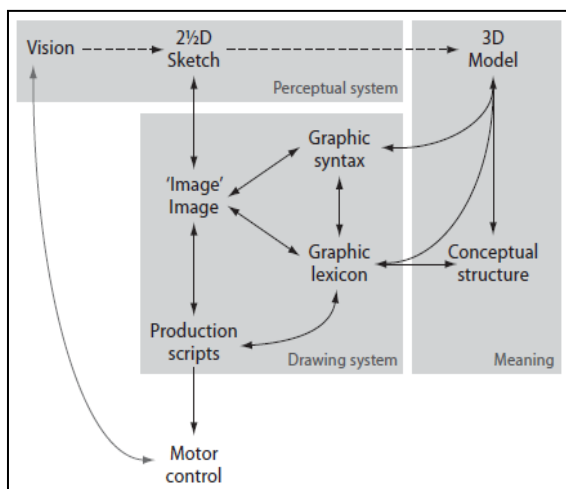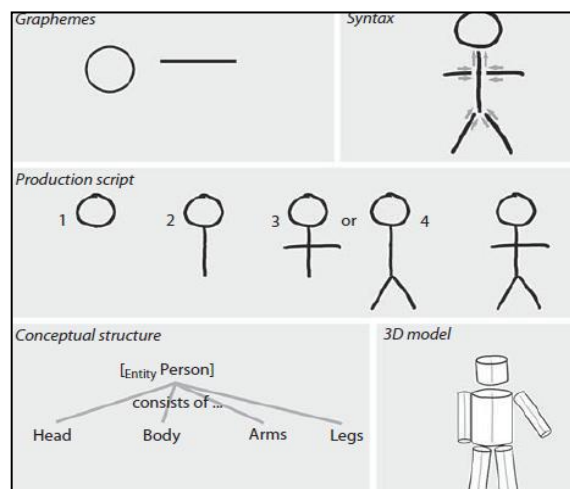
Figure 2: *elaborated contents of a proposed 'drawing system'* (From **Cohn**, **2012**, **p.175**)

Keller (**2008**) defines human development as a series of tasks requiring resolution in local context; thus, 'culture' is the product of individuals working together to solve these tasks by adaptation. Cross-cultural differences are thus the observed differences in both local tasks and resolutions. Nonetheless, we are still members of the same species, and derive comparable biological and cognitive predispositions, even if they emerge differentially (**Baker, 2003; Adolph & Berger, 2005**). Complementary to **Cohn's** (**2012**) perspective of 'drawing as language', this essay treats the measurement of culture as a phenomenon built upon universal commonalties. Culture shapes the way drawing ability develops and is expressed, but nothing towards its innate potential within humans.

As a language form using graphemes and syntax, drawing typically uses iconic references in the image to convey meaning. Iconicism occurs when a physical entity is reproduced to a standard that remains perceptible to the original (**Deacon**, **2011**). The human-figure is an apparent example, because it looks like a person. Conversely, cultural conventions are required for symbolic references, where graphic reference meaning is not visually 'obvious'. Iconicism is misleading in drawings because they rely on perception; it implies that they are universally understood, when in reality, they too rely on schemas stored in memory to be understood (**Cohn, 2012**). This is pervasive within classic 'drawing as perception' theories (Guerin et al., 1999). Closer inspection questions the assumption that all human-figure drawings are iconic. Warlpiri (Native-Australian) drawings represent their community by using a distinctive 'horseshoe' shape, not conventional human-figures (**Wales, 1990**). Thus, even iconic references in one culture are actually symbolic in another; where some argue that "*drawing is to see correctly, to observe*" (**Sierra-Dupont et al., 1978 p.348**), caution must be placed not to interpret that visually-apparent images always represent what they appear to. Interpretation is also a concern without a local expert who appreciates the drawing e.g. the artist, because drawings are artefacts derived from temporal contexts (**Hall, 2008; Steele, 2008**).

Historically, drawing development was associated with the attainment of achieving graphical realism (**Lee & Das Gupta, 1995**). Following extensive drawing analyses by many earlier researchers, Cox (1992) proposed a series of sequential and predictable drawing stages; from scribbling, to pre-figurative (intentional but unrealistic images), to more complex drawings (see **Lee & Das Gupta, 1995**). The Draw-A-Man Test is used to measure this developmental level; the task involves drawing a man, woman and themselves, with graphic details assessed e.g. a defined trunk, limbs, and facial features (Goodenough, 1926; Harris, 1963; see **Lee & Das Gupta, 1995**). Seminal 1980/1990s research also investigated graphical competence in demonstrating conceptual understanding e.g. depth ('draw a road going into the distance', with the occurrence of drawings containing parallel or converging lines; **Lee & Das Gupta, 1995**). **Cohn's** (**2012**) theory would argue that these classic tasks actually measure syntactic development i.e. the acquisition of rules required to represent the items they hold in their graphic lexicon.

A useful theory of systematically assessing how a child's drawing development is influenced by culture is the Development Niche (**Super & Harkness, 1986**). Originally derived from the Whiting model (see **Worthman, 2010**), three major domains directly encapsulate environmental influence: settings, customs, and actors. The child, embodying the experience, expresses these influences in measurable ways, such as in their drawings. Psychological research assessing the function of culture in producing drawing variation has been sourced to support each of these domains (**Huntsinger et al., 2011; La Voy et al., 2001; Cox et al., 2001; Rübeling et al., 2011; Martlew & Connolly, 1996**).

On the national culture level, **La Voy et al.** (**2001**) found evidence suggesting that cultural customs influence drawing ability, the Development Niche's first domain. They investigated the existence of USA and Japanese cultural conventions in smiling, attention-to-detail, and self-evaluations of social worth in 7-8 year-old children's drawings. Asked to draw a tree, house and person, the subjects' person was assessed for these three conventions above with the following criteria: evidence of a smile required both mouth corners turned upwards; evidence of attention-to-detail counted the number of non-essential details (ears, buttons etc); evidence of social worth measured the height top-bottom. Four independent judges evaluated these traits, and only drawings receiving 100% agreement were analysed. All three domains were significantly different: American drawings were more likely to draw themselves smiling, Japanese drawings were more likely to contain rich details, and were more likely to draw large person pictures. These occurrences may reflect differing conventions in USA and Japan; for smiling, where Americans value emotion expression, Japanese differentiate private and public personas (**La Voy et al., 2001**). (It is possible, however, that Americans' are simply taught to include smiles on their drawings, and not reflective of emotion expression convention; however, it would still demonstrate the role of education influencing graphic expression.) Japanese children are also encouraged to highly-value process, perhaps resulting in greater attention-to-detail in their drawings (White, 1985 – see **La Voy et al., 2001**). The larger person pictures in Japanese drawing may reflect higher societal values towards children and group belonging (White, 1985). (However, it is possible here that Japanese attention-to-detail results in a larger picture to ensure easier detailing of features, and is not reflective of societal worth. This would still

demonstrate a cultural effect, but it would not be due to the convention originally thought.) Despite these three cultural differences in graphic expression (**La Voy et al., 2001**), clear similarities also exist. Both groups drew perceptible drawings interpretable by the judges, demonstrating that the USA and Japan share some common grapheme items and syntax (**Cohn, 2012**).

Another study demonstrating customs' effects on drawing was found in seven and eleven year-old Japanese and UK children's drawings (**Cox et al., 2001**). Using cross-sectional design, matched samples of both age groups and both cultures were acquired. Japanese drawings were more favourably rated by independent judges, suggesting greater graphical competence overall. This effect was consistent at both ages taken; does this imply that Japanese society facilitates drawing competence? The prominence of manga in different media forms is well documented (**Cohn, 2010**). Manga occurrence is so widespread in Japan that it seemingly provides a consistent external system for children to imitate and learn lexicon and syntax from, even though manga is not formally taught in schools (**Cohn, 2010**). Consequently, Japanese drawing overall is competent and develops even into adolescence. Contrastingly, the UK views drawing as a 'skill', and superfluous to reading/writing. (**Hall, 2008**). **Cohn** (**2012**) attests a British person would find it strange, indeed worrying, to meet an individual who could not read/write, but to be an under-developed artist (named 'homedraw', where only rudimentary graphemes and syntax exist) would be accepted, because it is a non-essential 'talent'. It is worth noting though that both samples showed age-related improvement at 11 years-of-age; however, the UK children's further trajectory is questionable, with the 'period of oppression' occurring by teenhood where drawing development largely stagnates (Davis, 1997; see **Cohn**, **2012**).

A second influential domain according to the Developmental Niche (**Super & Harkness, 1986**) is the actors within the childs' life. Evidence supporting this assertion found that parental attitudes towards drawing greatly mediates both drawing competence and creativity (**Huntsinger et al., 2011**). This study longitudinally compared the development of creative and competent drawing ability in middle-class Chinese-American and European-American children at ages 5, 7 and 9. The Chinese view holds that practice makes perfect; creativity emerges after the teaching of essential drawing skills (**Jolley & Zhang, 2012**). **Winner** (**1989**) reported observations of Chinese children obediently and meticulously learning to produce sophisticated drawings by copying the teacher/textbook example step-by-step. The USA view, contrastingly, holds that creativity emerges naturally and without instruction, to the extent that instruction can *stifle* creativity. To explore the potential effects of these differing views on drawing development, competence was measured using the Draw-A-Man Test, and creativity was measured by different primary school teachers at the three intervals. Results dramatically favoured the Chinese-American drawings: they were more mature and creative, with their parents reporting a more formal structure in promoting creativity. Many of the Chinese-American children attended Chinese schools on weekend-days, with art-instruction included; they also reported to spend more time on fine motor tasks, a known pre-requisite in assisting drawing competence (**Jolley & Zhang, 2012**). Additionally, Chinese-American fathers' art attitudes at time one predicted 53% variance in children's scores at time three. It is even more convincing given that the Chinese-American children were born in the USA; their home life and extra-schooling clearly

impacted on their drawing competence. These factors would be beneficial in the acquisition of graphic schema and syntax (**Cohn, 2012**). Finally, correlations also showed that overall, children that had more opportunities to draw and/or who had more guidance became more advanced artists (**Huntsinger et al., 2011**). This is critical of the USA, even 'western' view that drawing is a demonstration of childhood 'innocence', and should be left to express itself. This study shows that environmental factors, like schooling, but mostly parents' ethnotheories concerning drawing instruction, has major impacts on graphical competence and development (**Huntsinger et al., 2011**).

The third major domain influential according to Developmental Niche (**Super & Harkness, 1986**) is setting. Evidence for this derives from (**Rübeling et al., 2011**). They compared drawings from 4-year-old German and Cameroonian children. Interested in self-conceptions, they found that figure-size and head-size in Cameroonian children were significantly smaller in both self and family drawings, which were attributable to Cameroonian sociodemography. Drawings were matched for age, graphical competence (this was assessed by the quality of two drawings of geometric shapes; one copied, the other from memory), developmental level (only figurative drawings resembling figures were used), and structural level (grouping tadpole, transitional and conventional drawings for the two cultures for comparison between each level), thus achieving great control in the comparison of cultural-sociodemography. The Cameroonian sample, from a Nso farming community, were rurally situated. Here, patri-local settlement patterns are common, with extended family coexisting with parents and children; with an average household containing seven people, and several families living in one village, day-to-day decisions are centred on the group welfare. Middle-class German culture, contrastingly, centres on individualism; with households usually contain parents and one child, and with the majority of the population living in urbanised settings, independent responsibility and freedom from others is highly valued (see **Rübeling et al., 2011, p.408-409**). These sociodemographic arrangements reflected the differential figure and head-size of the drawings in both cultures. Importantly, despite this clear difference in size, evidence of the three developmental levels (scribbles, pre-figurative and figuratuve) were evident in both samples, suggesting a general pattern of drawing development occuring across both cultures.

More evidence for the role of setting in childrens' drawing development (**Super & Harkness, 1986**) comes from **Martlew & Connolly** (**1996**). They found evidence from 10-15 year-old Papua New-Guinean children suggesting that the existence of drawing instruction, primarily from education, has a notable impact on drawing competence. From the Jimi valley in West-Highland-Provence, the sample had been uncontacted by westerners until 1950s; villages here are widely distributed, being over half-an-hours walk from eachother; contact usually occurs on weekly-market days. Considerable social segregation between the sexes occurs, and on the basis that graphic art is not traditionally available, children have scant opportunities to copy and learn, and thus derive graphic fluency (**Cohn, 2012**). Using human-figure drawings, **Martlew & Connolly** (**1996**) used structural levels to categorise the drawings, according to their specific characteristics. Three examples include: 1) scribbles possessed one-dimensional lines (individual or continous), zig-zags or curving marks, with no orientational preference 2) tadpoles possessed circular form with a face, and limbs attached from

the face 3) crude-conventionals possessed clear body/trunk differentation, but the segmented body parts would be badly proportioned or coarsely constructed. School experience, even brief and indrect, had a signficant impact on the distribution across the structural levels. All children attending school drew only conventional figures, but all categories of drawings were found in the unschooled children's drawings, thus demonstrating the role of setting, specifically school, in aiding drawing development. Unrepresentative scribbles/shapes were produced mostly by unschooled children, who lived in more remote villages without schools and other potential graphic influences, strongly demonstrating the role of environment in influencing drawing competence and development (**Huntsinger er al., 2011**), but not the existence of the ability originally (**Cohn, 2012**).

As discussed earlier, an issue within drawing research concerns interpretation, both in judging competence and psychological development. Studies cited have analysed human-figure drawings, an iconic reference in the cultures concerned. Competence was reliably attained by employing several independent judges to measure the graphic quality by using specific criteria (**Huntsinger et al., 2011; La Voy et al., 2001; Cox et al., 2001; Rübeling et al., 2011; Martlew & Connolly, 1996**). Using competence to measure psychological (specifically conceptual) development, however, is somewhat impoverished; one would not evaluate a written sentence considering only handwriting and spelling, and not sentence meaning. Remedying this issue is achieved by naturalistic observation of spontaenous drawings; they can reveal insights into the process a child experienced before, during and after drawing production. This view is championed by both art practitioners and psychologists alike (**Hall, 2008; Steele, 2008; Cohn, 2012; Burkitt et al., 2010**). **Hall** (**2008**) collected 374 spontaenous drawings produced in class and at home from 4-5 children over a 7-week period. Class observations, parents/teacher interviews, and the drawings themselves formed the three datasets used to investigate influences and narratives encompassing drawing production. Diverse influences embodying the childs' experiences and environments, (school, home, hobbies, holidays, T.V.) were discussed. **Hall** (**2008**) argues that her research reveals drawing as a dynamic, communicative and subjective process for the artist (see **Figure: 3**). The artists' description (see **Hall, 2008, p.5**) demonstrates that the drawing has affective and conceptual narrative beyond graphic competence. Similar observations are echoed by **Steele** (**2008**) describing a drawing (**Figure: 4**) produced by a six-year-old boy, including an account describing wildlife in the Amazonian rainforest. Thus, research aiming to assess psychological development based on spontaneous drawings may derive more informed and realistic representations of child development by considering the role of context in drawing production *and* the graphic competence.

To conclude, this essay argued that drawing is the third language: it uses graphic representation to convey meaning (**Cohn, 2012**). Like spoken and gestural languages, its expression varies cross-culturally; this point particulaly salient by the easily confused iconic and symbolic references evident in drawings. Culture is the product of community-consensus in solving locally-derived challenges (**Keller, 2008**). For drawing, cultures are differentially equipped to provide graphical influences for children to derive their drawing systems, hence the measured differences in competence and expression (**Cohn, 2012**). Using Developmental Niche (**Super & Harkness, 1986**) as a working-

model, specific environment al factors (settings, customs, and actors) have been used to demonstrate how culture influences drawing development. Cited comparitive cross-cultural research demonstrates that where drawing capability is universal, competence clearly varies as a result of parenting-ethnotheory, education, media and sociodemography (**Huntsinger et al., 2011; Martlew & Connolly, 1996; La Voy et al., 2001; Cox et al., 2001; Rübeling et al., 2011**). Finally, rather than viewing drawings as a temporary snapshot, a growing consensus of researchers and practictioners state the utility of viewing them as *doorways* when using drawings to infer psychological development (**Driessnack, 2005; Hall, 2005; Steele, 2008**).

Figure 3: *a drawing produced by a 4½ year-old boy. He explained that the Sun is worried that Volcano will dry up; meanwhile, Bird wants to fly over the sun to return to its nest* (From **Hall, 2008, p.5**)

Figure 4: *a drawing made by a 6 year-old boy. He includes a footnote, explaining it is the Amazonian rainforest and insects living within it (see teacher annotation below)* (From **Steele, 2008**)
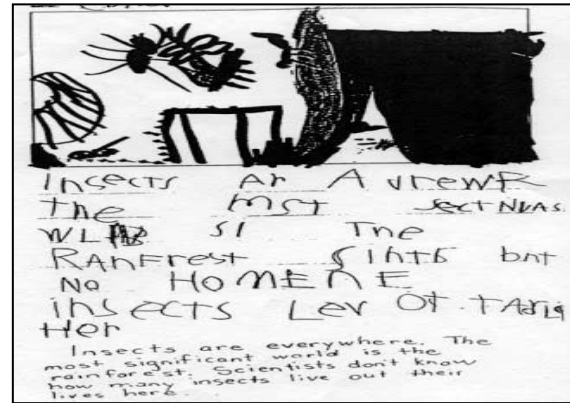
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