

Framing “I can’t draw”: The influence of cultural frames on the development of drawing

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Abstract

Why is it that many people feel that they “can’t draw”? In a recent article (Cohn, 2012), I put forth a new theory that compared the cognitive structure of drawing to the cognitive structure of language. Like language, drawing uses schemas that combine in innumerable novel ways, and thus children learning to draw must acquire these schemas from the drawings in their environment. However, while most people in the United States and Europe “can’t draw,” Japanese children have far greater proficiency in drawing. This paper explores reasons for this cultural disparity in graphic fluency originating in the structure of the drawing systems in those respective cultures and the beliefs that frame ideas about drawing and art education. In particular, I explore the intriguing possibility that cultural assumptions admonishing imitation of other people’s drawings prohibits the acquisition of graphic schemas, thereby leading to people feeling that they “can’t draw.”

Keywords

Cross-cultural frames, art, art education, drawing, imitation

Why is it that many people feel that they “can’t draw”? In a recent article (Cohn, 2012), I put forth a new theory that compared the cognitive structure of drawing to the cognitive structure of language. I argued that both systems rely on storing schemas in memory that can then combine in innumerable novel ways. In turn, learning to draw becomes like learning to speak: learners acquire the

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schemas from their environment. As with language, this developmental process requires a delicate balance between the Nature of a person's inborn cognitive system, and the Nurture of the drawing system in their surroundings. Thus, as Church (2012) notes in her commentary on my article, culture plays an important role in learning to draw, and she questions the extent of such an influence. In this article, I further explore this role of culture in the acquisition of a drawing system. In particular, I posit the intriguing possibility that a cultural "frame" in the United States and Europe about the nature of drawing may actually inhibit the learning process, thereby relegating people to the feeling that they "can't draw."

Visual language theory

Before exploring the role of culture in learning to draw, it is worth revisiting the claims of my theory that compares the structure of drawing and language. The guiding idea behind this comparison is a "principle of equivalence" which outlines that we should expect that *the mind/brain treats all expressive capacities in similar ways, given modality-specific constraints*. In other words, we should assume that the same underlying cognitive processes guide the structure and development of all human capacities (since they all come from the same organ), but each do so in ways unique to their modality. Thus, a viewpoint that believes drawing is *not* like language must bear the onus of explaining why the mind/brain would be motivated to treat them in significantly different ways. Such a contrary viewpoint is demonstrated within the predominant ideas about the function of drawing as an articulation of perception, be it through vision ("life drawing") or memory ("drawing from memory"). These views contrast with a perspective that, like language, *drawing functions to graphically convey concepts* (i.e., provides a method to communicate our thoughts in the visual-graphic modality).

So, what cognitive capacities are shared by language and drawing? Like language, drawing is built of a "lexicon" of schematic patterns stored in long-term memory. These patterns range from simple graphemes (like dots, lines, or curves) to portions of drawings (like particular patterned ways to draw hands, eyes, boxes, etc.) to simple full drawings (such as the stereotypical ways to draw a house, or a stick figure) and possibly beyond (like a pattern for a full scene). While simple graphemes have no correspondence to meaning (being instances of the graphic form alone), other schema may correspond to conceptual or spatial structures to derive their meaning. Like the vocabulary of languages, these schemas may differ across cultures, as is particularly apparent in comics: the stereotypical style of American superhero comics is distinctly different from the patterns in Japanese "manga."

Also like language, these schematic parts may be organized using a combinatorial system akin to the phonological system in language. Just like particular sound strings are illegal in English, like starting a word with "tf," certain junctions of lines appear illegal in drawings (Willats, 1997). For example, using a Y-junction or a +-junction to show occlusion instead of a T-junction renders a drawing unusual.

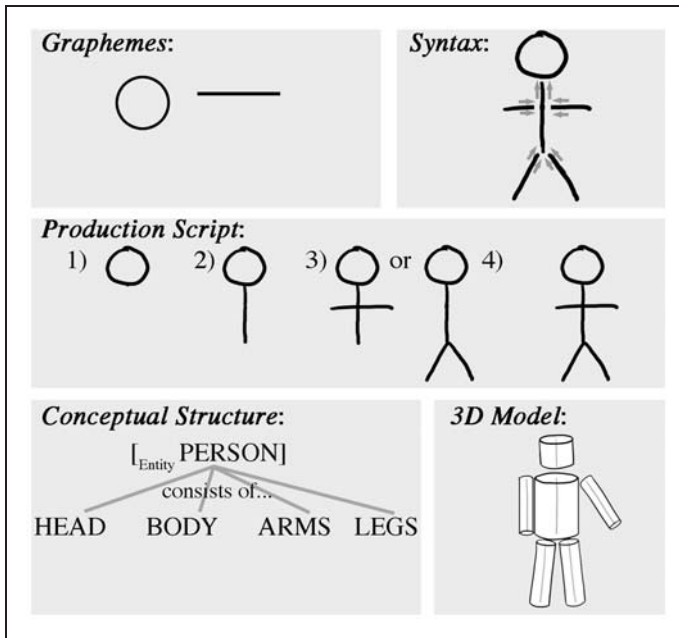


Figure 1. The lexical entry for a stick figure.

Also, because drawings unfold throughout time, these schemas may be tied to a production script that specifies the order in which drawings should unfold. This may be particular to a schema (such as how a stick figure is drawn head first, then body, then limbs, but not limbs first, then head, then body), or it may involve a default order common to all objects (Willats, 2005).

Together, these components may all be stored in memory as comprising a “visual lexical item” of drawing, as shown in Figure 1. Essentially, a visual lexical item reflects the cross-listing of a stored schema in memory extending across several interfaced structures of the drawing system.

The parallels between language and drawing also impact what it means to not be able to draw. The predominant view says that drawing is about the articulation of perception (be it through vision or memory), and thus proficiency in drawing relates to the ability to accurately represent the way things look in the world. In contrast, this theory of visual language bases drawing proficiency on the degree of “fluency” reached with using an expressive system. Thus, learning to draw must involve acquiring graphic schemas, particularly from one’s environment. This sets imitation as a central feature of the development of drawing ability. If sufficient schemas are not acquired, a person may be left with a basic drawing system reflecting the cognitively innate “resilient” features of drawing compared with the more “fragile” features that *must* be learned by cultural convention. For example, even “non-fluent” drawers who “can’t draw” still can create basic schemas (like those

for stick figures, flowers, or houses), can use size to convey depth, and other simple facets of drawing. However, they cannot pull from the wealth of schemas that allow truly proficient drawing.

This contrast is again similar to notions of language development. Most people learn the “fragile” features of full languages out in the world, but unfortunate cases exist of people who cannot gain this exposure, leading to them creating novel systems left with only the “resilient” properties of language (Goldin-Meadow, 2003). The most well-documented cases are those of deaf children born to hearing parents who were not taught a sign language (either by choice of the parents or having none available). These children create their own “homesign” systems to communicate, though they are limited in their vocabulary of hand signs and combinations. By analogy, most people who “can’t draw” have an impoverished “homedraw” system compared to those who acquire a full vocabulary of graphic schemas.

It is important to note that this drawing development must occur within a limited time frame. It has long been established that language is acquired within a critical learning period that reaches its apex at puberty (e.g., Lenneberg, 1967; Newport, 1990). Likewise, a “drop-off” in drawing ability has been recognized as occurring around puberty, where learners’ development in drawing stagnates without sufficient exposure and dedication (e.g., Davis, 1997; Davis & Gardner, 1992; Gardner, 1980, 1990; Read, 1958; Rosenblatt & Winner, 1988). If not overcome, a person’s drawing abilities will remain the same throughout their lifetime (Kindler & Darras, 1997). In my analogy to language, I interpreted this “drop-off” as the apex of a critical learning period for drawing development. In particular, I drew on cross-cultural evidence that shows such a drop-off is not universal, and that Japanese children show no stagnation in their drawing development (Toku, 1998, 2001a, 2001b; Wilson, 1997, 1999).¹

Here now we meet the intersection of biology and culture in the discussion of drawing development. The question is: why do some cultures (United States, Europe) show stagnation in drawing development at puberty while other cultures (Japan) do not?

Culture meets structure

There are several reasons why Japanese children may not stagnate in drawing development compared to American children. For example, one theory to explain the drop-off in drawing ability posits that children merely lose interest in drawing (Arnheim, 1997; Read, 1958). Perhaps American and European children become disinterested or distracted faster than Japanese children? While this may factor into development, we will first pursue possible reasons for the disparity stemming from the nature of the drawing systems in their environment.

While the United States and Japan both have rich visual cultures, the characteristics of those drawings differ greatly. In Japan, almost all drawing styles use the conventions found in Japanese comics, which predominantly use a stereotypical

style featuring people with large eyes, pointy chins, and big hair (Cohn, 2010; Gravett, 2004; Schodt, 1983). The comic industry in Japan is massive—manga occupy over one-third of all printed material (Gravett, 2004; Schodt, 1983)—and this visual style pervades all aspects of Japanese visual culture and provides a rich visual vocabulary for children to imitate (Cox, Koyasu, Hiranuma, & Perara, 2001; Toku, 1998, 2001b; Wilson, 1988, 1997, 1999). Some studies indicate that over two-thirds of children's drawings use styles imitative of comics (Wilson, 1999). Furthermore, while nearly all Japanese 6-year-olds can produce complex visual narratives, less than half of 12-year-olds of other countries have this proficiency (Wilson, 1988).

Comparatively, such consistency is more rare in the visual culture in the United States. Various consistent graphic dialects do appear within certain constrained contexts (such as studios of comic artists or the style of instruction manuals), but by and large the drawing styles within and between comics, cartoons, advertisements, and other aspects of visual culture vary widely. In many cases, the drawing styles of one individual may depart greatly from another, even within a common context like comic authors. Thus, if American children seek to copy the “visual language” of their culture, they face a harder choice, akin to a child living in a culture where each person speaks a different language: which style, if any, do they choose?

In this light, the stagnation of American and European children's drawing development reflects the end of a critical period in which they did not receive proper exposure to and practice with graphic schemas. Their development thus cannot progress past the resilient features of the drawing system, thereby appearing to “drop-off.” In contrast, Japanese children have no trouble acquiring a rich set of schemas because they are immersed predominantly in a single visual vocabulary. These children are more able to acquire the schemas of their visual language by the end of the critical period without facing a “drop-off.”

Thus, the nature of the visual language in children's environments contributes to the degree of proficiency they might have in learning to draw. This explanation contributes to a possible reason for the disparity between the development of American and European children and those of Japan. However, a persisting question may be: Why do American and European drawing systems have so much more diversity than the Japanese visual language? And is that diversity tied to more general cultural views about drawing?

Cultural frames of drawing

We now turn to exploring another possibility for the cultural difference between drawing development in the United States and Europe versus that of Japan. This explanation will provide a context for both the diversity in drawing styles in the United States and additionally why there is a pervading feeling of “I can't draw.” One clue about the causes of the impoverished drawing ability in American and European cultures can be traced, at least in the context of Euro-American cultures,

to the mentality behind art and art education. Some evidence has suggested that children struggle in art classes because their own intentions differ from those instructed by a teacher (Pariser et al., 2007; Pariser, Kindler, & van den Berg, 2007). However, such a disconnect may be even more pervasive than just attitudes held in a classroom setting. It may be that children's natural cognitive inclinations lie at odds with the cultural expectations of drawing more generally.

An influencing force on drawing development may be the emphasis in art education against imitation. For the past hundred-plus years, the primary focus in drawing education has encouraged students to find their own "personal style" and has admonished imitation of others' drawings (Cížek, 1927; Richardson, 1914, 1937; Viola, 1936). The origins of this emphasis reach back to the Austrian educator Franz Cížek in the late 1800s, who believed that people had an innate "artistic ability" that could only develop naturally without influence from external forces (Cížek, 1927). Imitation of other people's drawing styles, and any explicit instruction by a teacher, stifled a child's innate creative potential, because it reflected cultural influence over subconscious instincts (Cížek, 1927; Richardson, 1914, 1937; Viola, 1936). He and other later proponents of this view have gone so far as to claim that imitation not only limits creativity, but is a detriment to a child's mental health (Arnheim, 1978; Lowenfeld, 1947), and have compared it to child slavery, prostitution, and even murder (Costall, 1997).

The roots of these anti-imitation ideas have been traced to the 18th century philosophy of Jean-Jacques Rousseau (Paine, 1992), who viewed children's development as a ripening process of innate capacities. Such trends in art education were already becoming apparent in the mid-1800s in the writings of influential Swiss educator Rodolphe Töpffer² (Wilson, 1992). Additionally, with the publication of Charles Darwin's evolutionary theories looming large over the scientific community in the 1800s, people seized on comparing "primitive" drawings with children's drawings as a theory of recapitulation, thus viewing children as "noble savages" who needed to be shielded from external influence. Despite some pushback in the early 20th century, this emphasis on individual creativity—and against imitation—quickly spread to become the dominant paradigm in art education around the world, and frames notions of drawing today (an excellent review of this ideology of education can be found in Willats, 2005).

This ideology has formed the core of cultural assumptions in the United States and Europe related to conceptualizations about drawing. I refer to this set of assumptions as the "Art Frame" and contrast it against the "Language Frame," which focuses on drawing as similar to other aspects of conceptual expression (namely speech and gesture). A "frame" in this sense is a collection of ideas and conceptions within a cultural setting that act as a filter to make sense of the world (Goffman, 1974; Kuhn, 1962). The Art Frame includes the various beliefs of drawing that we have discussed so far: that drawing is rooted in the presentation of perceptual information found in either the world ("life drawing") or the mind ("drawing from memory"), and that those images reflect an individual's unique creativity and conceptualization of the world. The development of this ability

Table 1. Contrasting viewpoints of the Art Frame and Language Frame.

	Art Frame	Language Frame
Function	Drawings function to re-present perception (either through vision or visual memory) Focus on performance or aesthetic, and personal expression of creativity as part of the signs	Drawings function to express concepts visually Focus on communication and contextual functionality Aesthetic is an interpretive layer (i.e., Rhetoric)
Learning	Fruition of individualistic creativity and talent, or skill learned through explicit instruction Individuality and innovation are stressed as good while imitation is bad	Innate ability naturally learned through exposure to and practice with external schema Communally used schemas are learned through imitation
Images	Drawings reflect perception (either from vision or from visual memory) Drawings are universal	Drawings reflect the patterned mental schema conventional to one's culture Drawings are culturally diverse patterns in individuals' minds/brains

should be left unsullied by outside influence; imitation is thus frowned on because it could limit the fruition of an individual's innate creative style.

In contrast, the Language Frame—as outlined by visual language theory—considers drawing to have a cognitive structure similar to other aspects of conceptual expression, particularly language and gesture (Cohn, 2012). This view sees drawing as the expression of concepts via the visual-graphic modality by means of patterned schematic knowledge stored in long-term memory. Thus, the development of drawing ability is the acquisition of these schemas through exposure and practice. This set of conceptions frames the natural inclination of the drawing system. The contrasts between the Art and Language Frames are summarized in Table 1.

It is important to situate these cultural Frames in the cognition of individuals, and to recognize that shared “patterns in the heads” of individuals establish the dominant “frames” of a culture. While the origins of the Art Frame come from pedagogical philosophy, individuals educated in this viewpoint then carry and transmit it through their own behaviors. This means that, once enough people carry this view, the Frame persists beyond the educational context in which it originates, and instruction of it merely reinforces a belief held by the members of that culture. The result is that a child learning to draw may be exposed to these Frames through various sources, including the beliefs and behaviors of their parents, their educators, their peers, and other members of society (including

the media). Beyond people, this belief is also apparent in the graphic systems children interact with—the diversity reinforces the valuation of individuality against imitation. All of these contexts link a child with the broader cultural Frames, and each of these contexts constrains development to different degrees.

These Frames outline a way to understand why Americans and Europeans stagnate in drawing ability at puberty while Japanese do not. Because it reflects similar operations to other domains of cognition, the Language Frame outlines the natural inclination of the mind/brain for the structure of drawing. Thus, the influence of the Art Frame in the United States and Europe acts as a cultural force that prevents these natural inclinations. If the cognitive preference to learn how to draw is to acquire graphic schemas through exposure and imitation, then a cultural frame that admonishes imitation in favor of drawing from perception will result in people not learning how to draw. By forcing learners to draw entirely from perception, they will not learn graphic schemas. Indeed, because each visual percept is different, they will be charged with learning how to represent the very unsystematic aspects of vision, thereby not learning a vocabulary of mental models. By analogy, it would be akin to asking children to learn to speak by creating their own lexicon (i.e., which is essentially what happens to homesigners in language learning). Thus, people will be rendered as feeling as though they “can’t draw”—essentially meaning that they are “not fluent” in a visual language.

In this situation, we find an inverse relationship to the language learning of homesigners. Deaf children who create homesign systems have an inability to access the language in their environment, and thus cannot become fluent in its structures. In contrast, the “homedraw” that most people use when drawing comes from the culture prohibiting their acquisition of structures in their environment. In both cases though, the central issue remains the same: the mind/brain wants to acquire schemas and while the environment may or may not have schemas to be acquired, something stands in the way of this interface to prohibit full fluency, be it biological (deafness) or cultural (the Art Frame).

Studies of art education have provided evidence that admonishment of imitation runs counter to effective learning how to draw. Indeed, it has long been acknowledged that development relies on imitation in the transmission of cultural conventions (Piaget, 1951). Research has suggested that copying drawings (i.e., learning the graphic schemas) highly benefits learning (Gardner, 1980; Ishibashi & Okado, 2004; Wilson & Wilson, 1982), often motivated through observation and modeling, not necessarily explicit art instruction (Lamme & Thompson, 1994; Wilkins, 1997; Wilson, 1997; Wilson & Wilson, 1977). However, development is enhanced further when a learner has access to the process of drawing (i.e., learning the production scripts), as opposed to just accessing a completed drawing (Pemberton & Nelson, 1987).

Further research has provided direct evidence supporting the influence of these Frames on learning to draw as well as showing the detriment of admonishing imitation. A recent longitudinal study compared the influence of parents’ attitudes on their children’s drawings by contrasting drawings by European American and

Chinese American children (Huntsinger, Jose, Krieg, & Luo, 2011). European American parents maintained beliefs common to the Art Frame, believing that children's creativity is best when reflecting individuality unsullied by imitation. Chinese American's immigrant parents focused more on learning of specific drawing schemas. Overall, both groups grew more skilled as they aged, though the Chinese American children's drawings were rated as more proficient at all ages of development. Moreover, Chinese American children's drawings were viewed as more creative than European American children's drawings. These findings support that differing Frames about drawing held by parents impact the development of children's drawing abilities. Furthermore, it provides evidence that stands in direct contrast to the Art Frame belief that free expression facilitates creativity.

Frames and cultural drawing systems

Finally, it is worth asking: what effects might the Art Frame have on the drawing system of a culture as a whole? Not only does imitation sponsor development but also it plays an important role in socialization. Children often imitate drawings as a means to partake in the visual vocabulary of their social group (Korzenik, 1979), which thereby sponsors and motivates drawing ability (Callaghan, 1999). Younger children imitate drawings to learn knowledge, but older children copy to adapt to the conventions of their culture (Smith, 1985). Nevertheless, following an "anti-imitation" viewpoint may also uphold the beliefs of one's social system: If a child's social group holds the Art Frame, they may "fit in" more if they admonish copying than if they do it. Thus, both Frames adapt to the pressures of socialization, though they can lead to different ramifications on the broader graphic systems in a culture.

If individuals do not imitate external sources, they neither partake in nor contribute to a conventionalized system of signs across individuals. This yields a culture that lacks a conventionalized system. As a result, without establishing a system, learners do not have a system to acquire from, thereby creating a vicious circle for not having a system they can be *exposed to*. An Art Frame-dominated society will thus lack a conventional representational system, and/or contain highly diverse styles based on the idiolects of each individual drawer. The United States largely has such diversity. While some conventionalization does exist (e.g., among studios of comic artists), great diversity exists between the drawing styles throughout the culture. Comics, cartoons, advertisements, etc., all use vastly different graphic dialects. Such diversity results from, and reinforces the values of, the Art Frame.

In contrast, as discussed, visual culture in Japan has less diversity. Japanese comics mostly use a stereotypical style featuring large eyes, pointy chins, and big hair (Cohn, 2010; Gravett, 2004; Schodt, 1983), which recur ubiquitously in cartoons, advertisements, and visual culture. Indeed, one is hard pressed in Japan to *not* find this style in graphic representations. Originally this style came from the Japanese "God of Comics" Osamu Tezuka, who was influenced by Walt Disney

and Western cartoonists (Gravett, 2004). Tezuka's popularity at the birth of the contemporary Japanese comic industry resulted in many imitators. As the industry developed, the style extended beyond any individual author, becoming a conventionalized system characteristic of the whole nation—just like a language. While the Western-derived art education maintains the Art Frame, such views do not permeate Japanese society more generally, which has allowed for imitation and a conventionalized system of drawing that pervades their visual representations.

As discussed, a consistent cultural style can contribute to making drawing development easier. In Japan, when children are exposed to a singular systematic style, they can then partake in that “visual vocabulary” without being forced to create their own schemas, and such imitation allows them to cooperate in a broader social group associated with that style. That is, a consistent style facilitates learning through imitation, leading to a conventionalized cultural style, which ties into a cultural identity through that visual language. Indeed, with the rise of Japanese comics as a global export, children across the globe are now imitating this style to participate as a member in their chosen visual language group (Brenner, 2007).

Another illustration of drawing involving a graphic lexicon comes from communities of native people in Central Australia who use highly conventionalized systems of sand drawings ubiquitously in communication (Green, 2009; Munn, 1986; Wilkins, 1997). Children in these cultures generally learn the system through observation and imitation alone (Green, 2009; Wilkins, 1997). With recent exposure to Western art education, these children often become forced to reconcile the properties of the two very different systems of drawing (e.g., while Western drawing uses lateral perspective, these sand drawings use a fixed aerial viewpoint). This results either in confusion for what some Western representations mean (Wilkins, 1997) or a fusion of the properties of the two systems (Cox, 1998; Wilkins, 1997). These children are not instructed to create mixed systems, but rather *exposure* to and *imitation* of multiple visual languages lead to mixed systems in their mental visual vocabularies.

It is worth noting that the Language Frame itself does not necessarily prohibit diversity in graphic representation. Rather, diversity within the Language Frame arises as a function of the social groups that may use a visual language. Just like variation arises in spoken languages between people of different geographic locations, time periods, and subcultural groups, visual languages may develop variations based on their particular social groups. In Japan, different graphic “accents” have arisen with regards to different genres of manga, reflected in the specific and consistent stylistic differences between comics aimed at men, boys, and girls. Yet, these sub-styles all share in the broader “standard” visual vocabulary of the Japanese visual language, and have emerged through differing chains of influence diverging from a common origin in Tezuka's style (Cohn, 2010). In contrast, genres of American comics vary much more widely in their graphic styles and do not simply play off a common “standard” form—they are much more like “dialects” than “accents,” each with their own origins and reinventions. Thus, diversity is possible within both of the Frames, though they may manifest in different ways.

Caveats

Before concluding, a few important caveats should be made. First, as emphasized previously these frames are not based solely on pedagogy. These frames could simply be confined to instruction of drawing, and then ignored in broader cultural contexts. In the case of the Art Frame, while its roots lie in a pedagogical method (or lack of method), it permeates cultural attitudes about drawing, including attitudes reinforced by parents (Huntsinger et al., 2011).

On a related note, most cultures do not explicitly have a Language Frame for their drawings.³ For example, Chinese art education focuses on learning instructed schemas and production scripts for representing traditional forms (Golomb, 2002; Winner, 1989). This does not actually reflect the Language Frame in total, only features of it, since the Chinese method focuses on *explicit instruction* rather than naturally learned cultural conventions through imitation, like language.⁴ Art classes in Japan also do not follow a Language Frame, and mostly follow the Western model (Wilson, 1997). Art classes do not necessarily promote or instruct the imitation of comics, yet children copy them nonetheless. Thus, this comparison is not between cultures that uphold the Art Frame against cultures that uphold the Language Frame. Rather, the contrast is between cultures upholding the Art Frame in contrast to *not having it* (i.e., having the Language Frame, by cognitive default).

In addition, the Art and Language Frames are not meant to align specifically with the idea of collectivism associated with Asian cultures in contrast to the individualism of American/Western culture (e.g., Nisbett, 2003). While the Art and Language Frames may correlate with these broader aspects of cultural psychology, such connections are not an intrinsic part of this hypothesis. The Art Frame could hypothetically apply equally to a collectivist culture as an individualist one. Research appears to maintain this: Wilson (1997) reports that Japanese children's achievement in Western styled art classes in Japan make little impact on their drawing skills outside imitating comics and studies have shown no correlation between comic reading in Japan and enjoyment of art classes (Nakazawa, 2002). By contrast, rejection of the Art Frame also can occur in individualist societies, as in Americans who copy Japanese comics (Brenner, 2007). For Americans who copy Japanese comics, the desire for inclusion into the social identity created by that imitation (and the natural inclination to imitate in the first place) carries more significance than the prohibition from the Art Frame. Thus, these frames should not be taken as broad generalizations about cultural attitudes outside the realm of drawing, though study of their intersection with such larger cultural frames would no doubt be interesting.

Finally, it should be noted that individual creativity can exist within the context of the Language Frame. Even though a system adhering to the Language Frame will share a common visual vocabulary, this does not create limitations on what is done with those forms. For example, authors of Japanese manga use a common and recognizable visual vocabulary, yet there are thousands of unique and different

manga produced all the time that are each visions of their individual authors. Again, this is similar to language: though people use the same vocabulary and grammar, these forms can be used in an infinite number of creative ways.

Conclusions

In this paper, I have explored reasons for why most people “can’t draw.” I have expanded on my previous theory that argues that drawing is rooted in storing a lexicon of graphic schemas in long-term memory, which build novel drawings using combinatorial principles. Learning to draw thus requires the acquisition of such a graphic lexicon, particularly through imitation of schemas found in the environment, similar to learning how to speak. Here, I argue that cultural influences may limit the nature of both the schemas available in the environment and the driving motivations for learning to draw in the first place.

I have posited that a set of assumptions—the Art Frame—have dominated the landscape of considerations about drawing that run counter to the natural inclinations of the human mind/brain (i.e., the “Language Frame”). Because it extols individualistic and innovative styles of drawing and the admonishment of imitation, this Art Frame exerts a cultural pressure that restricts the development of people’s drawing ability in the United States and Europe, thereby leading to a “drop-off” in development that may be an apex of a critical learning period.

In contrast, with no such cultural force and with a pervasive acceptance of imitating the drawings found in comics, no such drop-off occurs in the development of drawing in Japanese children (i.e., they become sufficiently fluent throughout and beyond their critical period). Thus, the resultant state of people who “can’t draw” in the United States and Europe can be viewed as a negotiation between Nature (Language Frame) and Nurture (Art Frame), the interplay between natural inclinations for imitation and cultural inclinations for individuality.

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Notes

1. It is worth noting that reaching the apex of this critical period would not necessarily eliminate the ability to learn to draw later in life. After this period, learning to draw would become far more difficult, and hampered further if learning ignores the acquisition of graphic schemas through imitation. This development would require concerted effort, which is different from the relative ease of learning that occurs earlier in life. Again, this idea is analogous to language learning, which becomes manifestly more difficult after puberty for most people (as found in the challenge posed by second language learning). See Cohn (2012) for further context.

2. Töpffer's own artistic work is also credited as a forerunner to contemporary comics (Groensteen, 1997), and he ironically wrote explicitly about the schematic and generative nature of drawing (Töpffer, 1845/1965).
3. The Language Frame may appear most apparent in native communities in Central Australia. Wilkins (1997) notes that their system of sand drawings is considered to be an integral part of speech, and that a person is not fully considered to be fluent unless they have competency in speaking *and* drawing.
4. With regard to Asian cultures like Japan and China, one could claim that the graphic schemas of their writing systems may encourage them to be more comfortable with acquiring native graphic schemas in drawing. This may be a reasonable hypothesis, though it still would not fully constitute a Language Frame, just further support for being comfortable with imitation of graphics.

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