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**MARTINE COROMPT**
Melbourne University

# The morphological riddle of a cartoon hand

**ABSTRACT**

*The appeal and effectiveness of the cartoon caricature has been commonly discussed in two ways, one in terms of the representation of 'type' (the averaging of all like things to create a stylized standard) and secondly the minimalist nature of its representation, as a type of linear short hand, or abbreviated reproduction of a veridical source. Using a very specific example – the caricatured cartoon hand – this paper will trace the cultural and perceptual morphology of this particular cartoon representation via the perspectives of varying and sometimes conflicting fields of research (science, psychology, art history, art practice) including examples of my own studio experiments as a continued endeavor to understand the potentials of these variant of points of view and the possible origins and explanation for one of the most enduring of all cartoon canons.*

**KEYWORDS**

caricature
cartoon
animation
anthropomorphism
white gloves

Despite the dramatic stylistic changes in mainstream animation over the last one hundred years, there are some motifs and conventions that have endured for reasons that have in many cases become lost to us. One of these conventions is the white gloved, three fingered hand, so ubiquitous, yet peculiar only to western cartoons and animation. Many of us, both fans and scholars alike, have pondered over this morphological riddle and it has been the subject of many blogs and online forums and frequent gags in animated series such as *The Simpsons*. This paper not only traces the genealogy of this cartoon canon or anatomical caricature, but also seeks to analyze why this convention is so enduring.

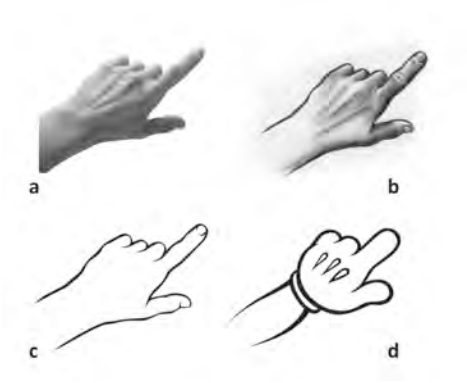
In order to understand the use of the cartoon hand it may be useful to segue slightly into the study of caricature, as this is primarily what we are dealing with. My initial interest in the subject of this paper can be attributed to a specific source, a somewhat esoteric study titled 'Speed of perception as a function of mode of representation' (Ryan and Schwartz 1956) which I came across while researching caricature. With the use of a tachistocope

projector, the authors set out to test what type of pictorial representation could be recognised in the shortest amount of time for the purposes of training manuals. The representational types were categorized as follows:

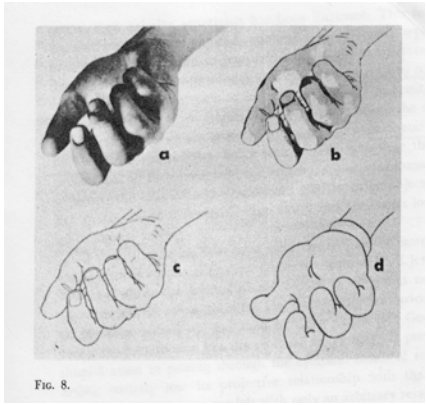
Photographs
Shaded drawings
Line Drawings
Cartoons

And the types of representational images depicted were:

Valves
Switches
Hands




Authors recreation of Julian Hochbergs original diagram 2012




Julian Hochbergs original diagram 1956

As an artist who works with drawing and animation I was naturally fascinated by this experiment, and what I found most interesting was not just the use of the cartoon images in a scientific experiment, but that for an experiment in perception such a change in appearance (loss of a finger and addition of a glove) seemed remarkable. The cartoon hand was perceptually inaccurate but actually the most effective. The line drawing and the cartoon, though seemingly closely related, were actually at both ends of the perceptual spectrum. One was easy to perceive quickly (.2 secs) and the other was not, and took longer.

Conventional caricature can be described as a systematic selection and exaggeration of certain features to the exclusion of others. Very often (but not always) incorporating

distortion, caricature is also a process of distillation and simplification, and is most effective and perhaps most familiar in visual culture when represented as cartoon line. The appeal and effectiveness of the cartoon caricature has been commonly discussed in two ways, one in terms of the representation of 'type' (the averaging of all like things to create a stylised standard) and secondly the minimalist nature of its representation, as a linear short hand, or abbreviated reproduction of a veridical source. Both of these perspectives have been explored in divergent ways within fields ranging from art history, psychology, neuroscience and of course visual artists.

## CARICATURE, TYPE AND THE CARTOON GLOVE

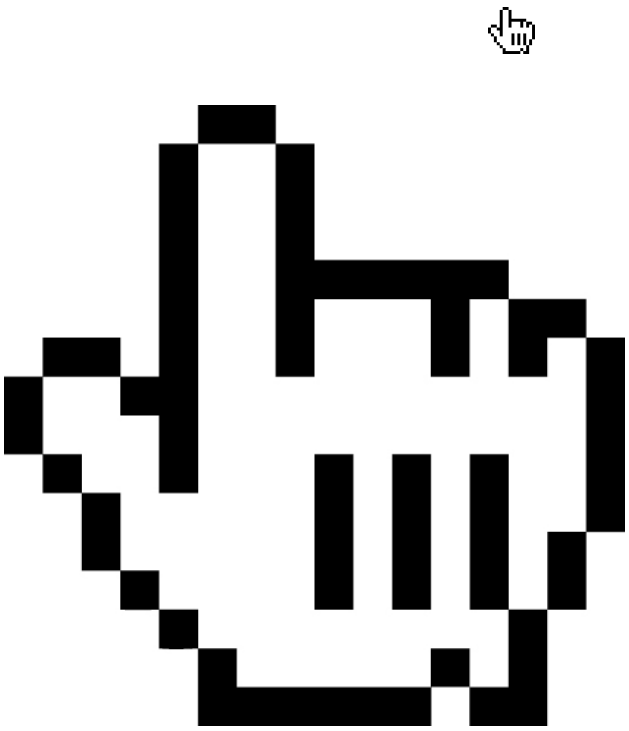
If we return to the cartoon hand depicted in Ryan and Schwartz's experiment, one of the things that we notice that makes it unique from the other three representations is that the cartoon version is a type, whereas all the other representations are specific. The photograph, the shaded drawing and the line drawing are all depictions of an actual hand (the same one in fact), a real hand belonging to a person who has an age, gender, size etc. To varying degrees these qualities are translated through the representation making it a particular hand.

The cartoon hand however is not veridical; it is a type of hand that pertains to the particular language of cartoon and animation representational form from around the early to mid-century (and curiously still seen today more omnipresent than ever). It may even be considered a canonical form, which as perceptual psychologist Julian Hochberg explains 'are shapes that are close to the ways in which those objects are coded in our mind's eye' – in other words, 'our mind's eye' sees in caricature (Hochberg 1972). In the historical visual art sense a canonical form may refer to the way a certain form is specifically depicted from a standardised position or pose, regardless of the scene that it is embedded. In the cartoon sense we may think of a canonical form as a shape, such as the gloved hand that describes all hands regardless of gender, age, species, artistic individuality, or whether even gloves were a desirable fashion accessary.

There are many reasons why the gloved hand, at the time of the experiment in the 1950's, had become a canonical form, some of them pragmatic and others cultural. From a technical perspective, comics and animation characters being part of a predominantly manual industrial process were (and still are) at the mercy of many limitations and challenges, such as cost, reproduction fidelity and of course man-hours. The gloved hand streamlines the hand anatomy, erasing details such as fingernails, knuckles, creases, and skin/fur texture saving drawing time, unifying the overall style and helping the hands to register against the overall

body color. Another important function of the glove is that it is a simple method of anthropomorphism for animal characters that are ostensibly ‘dressing up’ like people. The gloves can smooth over complicated problems like paws, claws, or even wings, where we can only postulate as to what is actually under those gloves. The gloved hand may also suggest a form of politeness, a polite fashion of the times or a symbol of the service industry – like the white-gloved taxi drivers of Japan, we can feel assured that we are in ‘good hands’.

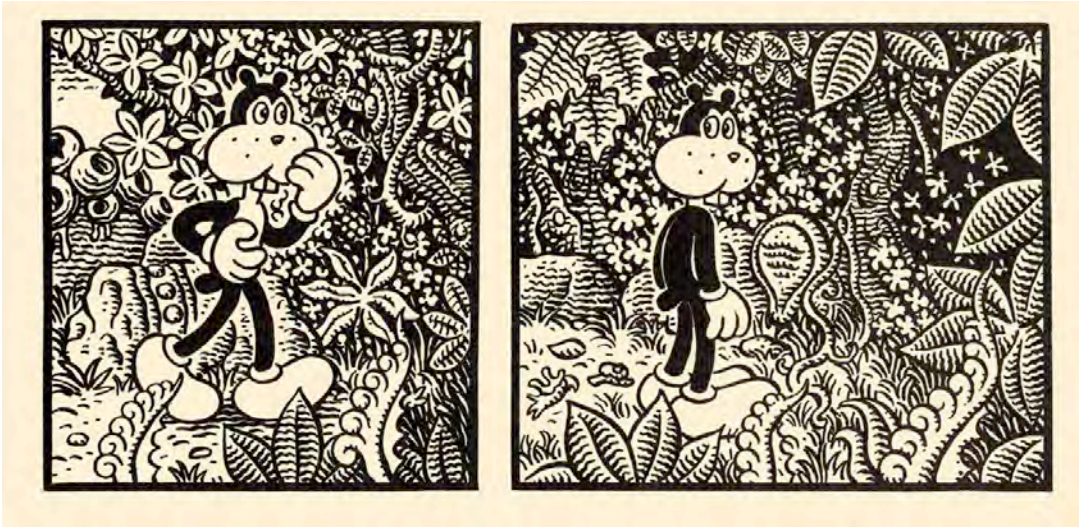
But what can we make of the most prevailing and obvious of all gloved hands that is often right in front of us every time we sit at our computer?



The disembodied Macintosh hand selection icon is the definitive glove-hand caricature, so omnipresent that like an obedient servant, we barely notice it is there. Though Susan Kare was the first to design the pan-hand (gloveless) icon around 1984, the author of the more contemporary gloved hand seems to be unknown. However Kare’s prevailing ‘economy of expression – the need for an icon to convey its meaning in a single glance’ (Kare 2005) is still very much embodied in the gloved version. Is it coincidence that this simple icon can convey its meaning in a single glance, just as the cartoon gloved hand of the Ryan and Schwartz

tachistoscope experiment also was able to convey its meaning in the shortest amount of time? Or perhaps is this because the 'gloved hand' caricature is so efficient and so eloquently communicates itself as 'hand', it has become a true canon, from which all abbreviated hand representations now refer to.

But why and where did the glove come from? A good example to begin with may be to look at a contemporary example such as Jim Woodring's comic book character Frank.

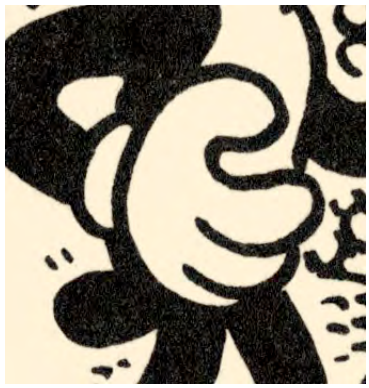


Jim Woodring's character Frank, from Congress of the Animals 2011. Image courtesy of J. Woodring

In an audience question session at the 2011 Graphic conference in Sydney, Woodring described Frank as a composite of all typical cartoon characters. Like Murakami's Mr. DOB, Frank is the 'everyman' that we can all identify with, a fusion of many familiar historical cartoon characters. The familiarity and simplicity of Frank's morphology serves an important purpose within Woodring's comics. While Frank is uncomplicated and recognisable, his surrounding world is extremely detailed and convoluted, dream-like in its architecture as well as its rendering. In the world of comics and animation the combination of visually simple character/protagonist set within an exotically detailed world is familiar and well documented, a process that as Scott McCloud explains 'allows readers to mask themselves in a character and safely enter a sensually stimulating world' (McCloud 1993). Unlike animation and cartoon forms, a computer icon is not labour intensive, it doesn't need to be redrawn continuously, it does however benefit from being anonymous, with just enough personification for the user to empathise with, against the sometimes hostile environment of

the computer. We don't want to see a stranger's hand on our computer, we want to see a vacant hand that we can mentally occupy as an extension of our own.

Frank's recognisable and endearing form also demonstrates the typical cartoon hand, simplistic, rounded, three fingered, sausage-like and most importantly gloved.



Detail showing Frank's hand from Congress of the Animals 2011

If we trace Franks morphology back through history, we might follow it through from characters such as Stimpy (Ren and Stimpy), Itchy and Scratchy (*The Simpsons*), Super Mario, Woody Woodpecker, Mighty Mouse (new and original) Jerry (Tom and Jerry) Sylvester, and Bugs Bunny (*Looney Tunes*) Bimbo (Betty Boop cartoons) Bosko, (early Warner Bros) and of course Disney's Mickey Mouse. But if we look a little further back beyond the two-dimensional we discover that the original progenitor of the gloved hand caricature is in fact not actually a drawing at all but another kind of caricature – the Blackface Minstrel. Al Jolson's blackface performances were a popular form of entertainment in the early twentieth century where his exaggerated gestures were channeled into the equally hyperbolic antics of early cartoon animation. To pinpoint specifically where this caricature-type began in print and animation is murky and perhaps irrelevant, as the wave of copycat characters surged during the 1920's swamping the original motif and cementing the style. Mickey Mouse was certainly the most famous two-dimensional character to wear white gloves, but aspects of his overall appearance (black body white face) and animal antics were predated by characters such as Oswald Rabbit (also Disney) and even Felix the Cat whose blueprint was the earlier and more explicit 1916 Sammie 'Sambo' Johnson (Adams 2009).

On returning to our example of the experiment of Ryan and Schwartz, the gloved cartoon hand at the time of the experiment in 1956 would have completely lost any associations with rambunctious stereotypical overtones and simply become a type, a symbol

drained of cultural associations and now efficient in its familiarity, laying down the seeds for the more famous digital gloved hand to flourish almost 30 years later.

## THREE FINGERS AND THE ECONOMY OF LINE

The other interesting characteristic of cartoon hands (gloved or ungloved) is the number of fingers. The three-fingered hand that has long become a standard in cartoon morphology is often explained simply as a way of rationalising a complex body-part. Grim Natwick, artist, animator and director explains this when he was working for Disney: 'Someone way back in the dark ages of animation got tired of drawing hands with four fingers and simply left one off, and cartoon hands have been much easier to animate ever since. It was a stroke of genius' (Natwick 2011). Whether the three-finger lineage was Felix or Mickey, it was certainly Mickey's gloved hands that perfected the formula and made the three fingers form a cultural standard still in use today. This formula cemented by Disney through the introduction of model sheets, defined anatomical details for the animators and simultaneously established conventions for characterization that were then picked up on by other studios.

More prevalent in the west, the three-finger formula serving well as an industrial shortcut, may also be indicative of the depiction of cuteness where infantile features, in addition to being appealing to an audience, also rationalize the character's madcap behavior. Most characters drawn with gloves and/or three fingers come from the Vaudeville tradition of slapstick humour and, since their beginnings, cartoon characters have been traditionally portrayed as comparatively round-ish and infantile to match their childish antics.

Young child's hand showing a lack of lines and creases, courtesy of the author 2012

From a drafting point of view, streamlining four fingers into three reduces the number of lines and the intersections between them, creating a greater expanse of smooth skin as opposed to complicated lines that may be perceived as wrinkles and allowing each digit to be fatter

(cuter). Julian Hochberg in his discussion on the Ryan and Schwartz study identifies the importance of reducing lines (and possibly fingers) in the context of clarifying positive and negative space. Increasing the separation between two fingers, for example, increases the size of the regions which we are intended to see as empty space, and thereby keeps the spaces from being seen as objects (Hochberg 1972).

This distinction between foreground and background is an important function of caricature and two-dimensional cartoon animation, where if we can easily identify and comprehend form we are more able to visually traverse complex backgrounds in which they are placed without being overly disorientated.

But the question remains as to why we find this economy of line so visually satisfying. The most definitive and somewhat reductive explanation may be found in the field of neuroscience, and in the 1999 journal article by Hirstein and Ramachandran, 'The Science of Art' where they explain the eight laws of artistic experience' (1999), the most pertinent to this discussion being the one regarding the effectiveness of outline drawing. In their explanation of the principal that our visual pathway cells are actually stimulated by edges rather than areas that are homogenous, they go on to say; 'We would argue that when the colour, skin texture, etc., are not critical for defining the identity of the object in question then the extra redundant information can actually distract your limited attentional resources away from the defining attributes of that object. Hence the aphorism "more is less" in Art.' (Ramachandran and Hirstein 1999: 24). Our brains simply prefer simple outlines, or see in caricature as Julian Hochberg suggested 27 years earlier. This explanation provides a neat rationale for the anatomically incorrect simplification of cartoon hands and would seem to explain the results of the Ryan and Schwartz's experiment where pictorial accuracy is not always an indication of clarity and comprehension. But I feel that the essay itself is an implementation of intellectual caricature, matching the definition I defined earlier in this paper as being 'a systematic selection and exaggeration of certain features to the exclusion of others'. Very often (but not always) incorporating distortion, caricature is also a process of distillation and simplification'. The clarity and precision of Hirstein and Ramachandran's argument is dazzling, but not particularly useful for analyzing specifics within a general field of visual art, and even less useful for the practitioner because if our brains prefer outlines and simplicity, why is there such a variety in the field of visual art? However, their point is a compelling factor that may help to explain the success of the cartoon hand in the Ryan and Schwartz experiment, and contribute to the explanation of the appeal of cartoons in general.

But perhaps the most simplistic and concrete explanation about the reason for a lack of fingers in cartoon hands is actually not due to a perceived lack of pictorial and anatomical accuracy, but a case of anatomically comparing the wrong species. A quick glance at the 'hands' of your pet cat will quickly reveal this misunderstanding. Early cartoon hands were modeled on paws, not human hands, as most characters were anthropomorphic animals. A cat's paw seems as though there are only four digits in total, because the 'thumb' in most cats is positioned further down the leg – out of sight – so the four digits seamlessly become re-inscribed as three fingers and a thumb.

**CONCLUDING THE RIDDLE**

As we have seen there are many factors that have contributed to the cartoon hand caricature of three fingers and white gloves:

Simplicity of reproduction
Simplicity of perception
Symbol of anthropomorphism
Symbol of zoomorphism
Legacy of a racial stereotype

Collectively these explanations are useful and fascinating, but to me not ultimately of primary importance. What is important to me is that the cartoon, regardless of the reasons for its evolution, has transcended its cultural heritage and technicalities and endured to become part of the visual language of signs. This is one of the unique legacies that two dimensional cartoon animation has left us, as we now find ourselves in a much dimensionally fuller visual culture. The three fingered gloved hand for me is like a cipher, an idiomatic pictogram that

points to the simultaneous complexity and simplicity within the language of two dimensional animation and cartoon drawing, where visual clarity is not contingent on reality.

## REFERENCES

Adams, D. (2009), Black Like Me: The History of Black Comic Book Heroes through the Ages Part One 1900-1968 Poisonous Paragraphs http://poisonousparagraphs.blogspot.com/2009/02/dart-adams-presents-black-like-me.html. Accessed 1 November, 2013.

Gombrich, E. H., M. P. o. P. C. U. Black, et al. (1972), Art, perception, and reality. (By) E. H. Gombrich, Julian Hochberg, Max Black, Baltimore, London: Johns Hopkins University Press.

Gould, S. J. (1979e), 'Mickey Mouse meets Konrad Lorenz,' *Natural History*, 88(5): 30-36.

McCloud, S. (1993), *Understanding comics, the invisible art*, New York: Harper Perennial.

Natwick, G. (2011), Design for animation - ASIFA-Hollywood Animation Archive, http://www.animationarchive.org/?p=2308. Accessed 1 November, 2013.

Hirstein, W. and Ramachandran, V.S. (1999), 'The Science of Art,' *Journal of Consciousness Studies* 6 (6-7) pp. 15 – 51Imprint Academic

Ryan, C.B. and Schwartz, T. A. (1956), 'Speed of perception as a function of mode and representation,' *American journal of Psychology*, 69(1): 10.

Woodring, J. (2011), Graphic, a weekend of graphic storytelling, animation and music. Sydney Opera house, Aug 20 – 21st.

Woodring, J. (2011), *Congress of the Animals*, NE Seattle: Fantagraphic books

Kare, S. (2005), Interview Design Icon: The Mac Icons, www.computerarts.co.uk/features/design-icon-mac-icons. Accessed 1 November, 2013.

## CONTRIBUTOR DETALS

Martine Corompt has been working with mixed media installation for over 15 years with a specific interest in researching aspects of animation, such as reductive representation, caricature and the animate space. Much of her work is collaborative and interdisciplinary, seeking to incorporate sound, space and image together, as well as highlighting the more direct relationship between spectator and artwork. Martine continues to lecture and co-ordinate Media Arts at the RMIT School of Art in Australia and is currently undertaking her PhD at VCA Melbourne University titled: Forced perspectives; cartoon and the cult of reduction.

Contact: martine.corompt@rmit.edu.au

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