The language of images. An interview with Stan Hayward about children drawings and the future of (visual) communication

By Cristina M. Vellinga-Firimita

Stan Hayward (79) has been a writer/producer in the field of animation since 1958. Best known for his children's TV/book/comic series Henry's Cat (www.henryscat.com), he is also associated with developments in computer animation. Hayward won the New Scientist Award in 1970 for a proposal to apply computers to all aspects of film production, and later produced the first fully animated computer film made in the UK ('The Mathematician'). He has had computer animation work exhibited at the Tate Gallery, and in 2006 participated in the 'Computers in the Art Room' project at Birkbeck College.
In addition, Hayward has had both Millennium and Kraszna-Krausz Foundation awards for running animation workshops in schools. Being deaf since 35, he has a particular interest in children with special needs and communication problems. His website at www.makemovies.co.uk is the outcome of this work.

Developments in both animation and computer techniques lead him to believe that written language is rapidly being replaced by graphic representations, and that writing is already on the wane. He also believes that drawing is an innate ability and should be taught equally with literacy and numeracy as an enabling skill.

This is rather intriguing since the word as a mode of representation is evolutionary more recent than visual representations, and considered to be a hallmark of humanity. Also, verbal language is considered to have more possibilities than visual signs. For example, the ekphrasis rhetoric technique considers that written text can contain and dominate the visual (and other sensory experiences) by adding something to it. Think of the famous fragment of Achilles´ shield in Homer´s Iliad, that no student of philology has ever escaped. This complexity of the written text is somehow contradicted by its linearity, but it is explained by the implicated (re)organisation of consciousness, as well as the expression of the human identity behind it (Descartes, cited by Bolter 2001, p. 195).

Why would we want to surrender to the visual? How well are we equipped from birth to deal with visual communication? Children drawings may give us a clue.

You are advocating the idea that drawing should be more encouraged in schools, up to higher degrees. However, when children get to master the written language communication system, usually they lose the interest in drawing and get somehow stuck in a drawing style that is rather rudimentary. A trade-off between the two communication systems seems to take place. In your opinion, there should not exist such a trade-off. Why?

S.H.: Most children don't get to master written language. The UK is a multilingual country with up to 20% of children in schools having English as a second language. The illiteracy rate in the UK (http://news.bbc.co.uk/1/hi/education/392439.stm)is now higher than it was when I left school in 1945 (12%). I am advocating that drawing should be taught along with visual representation where it can be used in place of the written word. Children don't lose an interest in drawing, but they have little use for it in schools, as the educational system is not set up for it: the term 'Visual Literacy' is not yet in the Curriculum outside of media studies. It is adults that lose an interest in drawing.

The ability to draw would overcome some of the problems of a multilingual society, and of course, icons on much of our equipment are already standardised internationally. The creation of a true international 'language' will certainly be graphical in form. I teach children animation by using alphanumeric characters as picture elements; this approach makes drawing easy, and a link between writing and drawing.

So, graphics would be more universal than words, or at least they would be successful substitutes of an unmastered language. This implicates an univocal interpretation of visual images and a non-culture dependency of the meaning conveyed by images. This can be true only in the measure in which visual images remain isomorphic to the referent (i.e. they would reproduce the real world in a recognisable way). When visual images tend to become signs, their degree of arbitrariness (in relationship to the meaning they are supposed to convey) will also increase. Think for e.g. of logographic communication systems.
What about language acquisition? Could drawing help language acquisition because it would, for example, require mentally mapping an image prior to describing it in words?

S.H.: I don't believe drawing helps language acquisition, in fact the opposite. I have worked with many children who are good artists but have communication problems, and some brilliant animators are autistic. Part of the problem is that such children may not get the chance to show their artistic skills in a normal school, and be regarded as retarded (as, for example, some dyslexic children are seen). Though we have ways of measuring how literate or numerate a child is, we have no way of measuring the drawing age of a child. The Goodenough-Harris system is over seventy years old, and most teachers are unaware of it. It is interesting to note that most adults in the western world have a drawing age of a ten year old child or less.

So, to some extent a 'rich vocabulary' is the outcome of poor graphical skills. Think of poetry, for example. Poetry conjures up images that might otherwise be presented directly as a picture. It is well known that Art and Music critics are eloquent in their fields but rarely good at art or music. There is also an analogy with learning music. A normal approach to study is to do exercises and learn to read music so you associate the written note with the place on your instrument (not the sound of the note). With jazz, many musicians learn a piece of music by ear then try to find (visualise) the pattern of notes on their instrument. In fact jazz guitar is taught by patterns rather than music notation.

You say that most adults in the western world have a drawing age of a ten year old child or less. Is there a significant difference with adults from other cultures?

S.H.*: I haven't looked too deeply into this, but being deaf I do look for visual clues when talking to people and am aware that generally speaking, the more articulate you are the less you use postures and gestures to reinforce what you are saying. There are also cultural differences, for example, watch two English people speaking, and two Italian people and see which ones are the most animated. I see this reflected in art. English humour tends to be based on verbal and visual puns, whereas Italian humour is more commonly based on situations.*

You worked with children for many years. In your classroom there were normal developing children, but also children with special needs. Is there a common benefit from drawing?

S.H.: The benefits of classroom drawing are not always obvious: for example, children find it much easier to create a picture story than a written one. They also copy each other and collaborate, so it has a social aspect. They have pictures around them they can copy, so have more resources to work with. There is no 'right or wrong' about a drawing, so grammar and spelling are not a problem. There are many techniques such as drawing, cut-outs, tracing, stencils, etc, that enables anyone to do it. The results are instantly assessable, and above all, the children's work is commented on by their peers, not only the teacher.

For children with special needs it may be necessary to use a technique suited to their skills. Some can only scribble, but scribbles can be animated and give the children satisfaction. Partially blind children can use computers to create large drawings. Deaf children can add text balloons and sub-titles.

Children with physical disabilities can use cut-out shapes. There is always a technique available. The common ground is that each child is judged by their own standard and not against the class. The finished artwork is much more likely to be put on display with the child's name, offering a sense of identity that is not given with written exercises.

How important is it to offer children this sense of identity?

S.H: When I run workshops, I usually get small groups of children to work together even if they are doing their own work. It means that the work is collaborative in most cases, and more importantly, the end product of the movie has their credit; they quite commonly clap when this comes up.
How important is this? Very. Film credits are a major feature in the industry, and size and placement on the screen is actually written into legal documents on professional work. This sort of recognition by their peers is very important to children, and is not the same as the teacher or their parents praising them.

There is no consensus about the significance of early drawings (up to 3 - 4 years) by children. They are viewed either as a pictorial construction of what they observe, as a translation of mental states or as an accident. In other words, the significance of their drawings maybe a posteriori and flexible (may change), may be intended or either extracting prototypes from the surrounding reality. What is your opinion on early drawings?

S.H.: Earliest drawings are typically scribble in the sense that children get satisfaction from making marks. It is more tactile rather than graphic. Finger painting and creating patterns in various ways falls into this stage. It is not meant to communicate anything.

The second stage is where children draw 'tadpole figures' with an egg shaped body and matchstick arms and legs. At the age of 2, children can recognise popular cartoon characters, and at a later stage these are commonly the models they use to copy. Again, the child is not attempting to communicate or visualise anything but simply using drawing as an activity.

A sense of purpose comes with drawing-games such as colouring books, drawing paths through a maze, joining up the dots, etc. Many such games are now on the internet. There is no 'drawing' as such, but an objective that requires a drawing skill to achieve. Another aspect of this is 'Doodling' where the drawing is an activity rather than a communication or a depiction. Children scribble/doodle simply because it is a pleasant tactile experience. On my Makemovies site there are links to sites that generate patterns. There are also forms such as fractal patterns that are pleasing for reasons that defy analysis.
When I was working with children, I used to buy lots of children's colouring books in charity shops. They were typically thrown out by parents because their own child had coloured in a few drawings and become bored. That is, the act of colouring in other people´s drawings is not satisfying because it is restricting and has no feedback. That is to say, a child that is able to correctly colour in an existing picture is already beyond the stage where they would want to do it. To some extent computers overcome this as you can colour in images with a click of the mouse, but this is actually related to the mastery of the computer rather than the picture.

The next stage of copying drawings might be regarded as a transitional stage. Give a class of children the freedom to draw what they want, the girls will typically draw people (and mainly girls) while the boys will more commonly draw machines or men involved in activities. At this stage, details play an important part, and the pictures are intended for viewing. In both cases copying will play a large part in the exercise.

In all, I do not believe that young children draw to express or record anything. It is a form of play, and is developed further by feedback when someone admires and comments on it.

In running the workshops, you were not aware of the handicaps of some of the children until they arrived in class. It was in the problems of communicating with them that you often had to find an animation technique suited to their abilities. Can you, please, give some examples?

S.H.: I would be aware of the handicap the children have but only in so far as I knew they had certain limitations and would require a particular technique to work with. Examples:

Severely deaf. *Not a problem as I am severely deaf myself and aware that one relies on visual cues to a large extent (I commonly watch TV with the sound off). In one case there was an eight year old girl who was both deaf and had Down´s syndrome. She was screaming when I came to the class, and the teacher offered to remove her. I let her stay, and gave her a lightbox[1] to trace drawings. She stopped screaming and was quite happy. Also other children wanted to use the lightbox.*

Autistic. *One autistic girl wouldn't speak to me but was able to do the animation. I asked her to tell the others what she did by speaking to the camera. She spoke easily to the camera.*

Hyperactive*. Again I found they preferred working with a lightbox, and would get a couple working together. Typically this would be one helping each other with the drawings (one did figures and the other did backgrounds) and then one operating the camera while the other placed or moved drawings. This meant they didn't disturb the rest of the class.*

Mentally handicapped*. One boy of 14 with a mental age of about 4 was in a group. The teacher said I could leave him, but I gave him some coloured markers and a pile of ready punched paper then asked him to just scribble on the first piece of paper, place another piece on top and scribble again in another colour. He did this endlessly, and I shot the scribble so that they animated as writhing lines. He was very pleased, and we all clapped him.*

Physically handicapped. *Typically unable to draw and sometimes speak, but able to understand. Here I would use cutout shapes or objects and they would be able to move these or indicate how they wanted them moved. They might work with a teacher or another child. I know a girl with cerebral palsy who cannot speak coherently and hardly move at all out of her wheelchair, but has written and directed award winning films.*

Dyslexic*. Commonly easy to teach, but as this is often not diagnosed, the children will be considered lazy or stupid. I once ran a workshop with serial truants who had been banned from schools. I found most of them highly intelligent, and one boy's mother had contacted me because her son was a talented artist but had a low esteem due to being told he was stupid by teachers. I worked with him for several weeks, and later his mother contacted me to say he had become a video games designer.*

In general, the 'handicap' relates to working in the real world. When teaching at a school for severely deaf children the teacher said the children were pleased that I was deaf as it showed you could get on even with this handicap!!! I felt the teacher had the biggest handicap. As a fiction writer my starting point of a story is that there is a problem to be solved, and that there are hurdles in solving it. The hurdles are overcome in spite of the handicaps of the protagonists. I see everyone as having a handicap and attitudes/skills for overcoming those handicaps. It was the point of my running workshops for Special Needs children that they could do things they were not aware of.

[1] What is a lightbox? Visit: http://www.artograph.com/products/light_animation.htm

I agree. Partially, this attitude is a result of what we know about children with special needs. Let´s take the case of autism. How could we use drawing to enable their communication skills, for example?

S.H.: Though I have worked with autistic children, and some quite talented (There is a very good animated film called 'A is for Autism'.), my understanding of the problem is that they can record pictures and sounds in remarkable detail, but find it difficult to originate anything. For example, an autistic musician may replay a complex orchestration after one hearing, but would not be able to change the mood of the tune from sad to happy. The problem is that recording an idea is for your own use while projecting an idea is for someone else, and that other person has to be seen in a way that autistic people find difficult.

So, you reinforce the idea of apparently a lack of Theory of Mind skill. Although you do not have solutions to all deficits, your experience with children is very insightful. It shows both the need- and capacity for drawing for several purposes. This moves the discussion towards the idea that written verbal language may well be a passing phase in communication. Do you see some developments already in this sense?

S.H.: One aspect is that English (American) is becoming the accepted global language, yet it is one of the hardest languages to learn to write due to its spelling and grammar inconsistencies. On the other hand, it is one of the easiest languages to learn to speak as there is an abundance of audio-visual material universally available.

It takes an American child about two years to learn to write[2] and even then most do not understand the structure of the language. In the UK the situation is worse: being multi-lingual, even many professional people cannot write English well, so there is a practical need for better communications in the commercial world.
Socially, the situation is dictated largely by Youth Culture. Social networks and emails increasingly replace written letters that once kept people in touch. Technical literature increasingly uses audio-visual presentations, and Internet icons are standardised to the point that they can be used in informal communications. Here are a few:

These are available as webdings in common word processors, though most people are unaware that they have them; when they do, they will find their way into emails and texting just as Smileys have ☺.

Yes, but this is partial, and, as you say, standardized. We would use visual signs c.q. symbols, but not visual images as a pictorial composition, as a drawing would do. A total replacement of written language by visual signs seems quite impossible to me, because it would require in fact replacing thinking and communicating through linear language, as we normally do.

S.H.: A total replacement of written language by visual images may seem impossible, and at the moment it probably is. Remembering symbols and signs is not the same as being presented with concrete images. It helps explaining if I put the developments into perspective over the last century. Around 1900 the first films were made, and were monochrome and silent. In the 1920s sound was added. In the 1940s colour became popular. In the 1960s TV started to become available generally. In the 1980s home computers became available. In the 2000s the Internet started to take off.
Each stage built on the previous one, but offered more information or better presented information, and in the process reached new markets. The 20 year step puts us in the middle of the next one, so by 2020 we should be able to talk in any language and have it instantly translated; speak to our 'computer' (whatever form it will be then), and get the appropriate image and link for our

[2] *cf. http://en.wikipedia.org/wiki/Reading_education_in_the_United_States*

communication. The likelihood of actually writing anything will be minimal. See the Sikuli programming language that bypasses writing and replaces it with images[3].

The argument then comes down to whether we need to learn to draw for this type of communicating. The answer is that drawing offers the skills to think visually, so you will be mentally looking for an image rather than a word to make your statement.

Visualisation implicates concreteness. Would then a more visual language enhance communication and understanding?

S.H.: Apart from writing being undermined by images, it is also being replaced by sound. Compare written directions with a map for a car journey and using a Satnav system that tells you the directions as you are driving. There have been civilisations in the past that existed without writing, so writing is not a necessity. Studies indicate that words are getting shorter, sentences are getting shorter, people are speaking faster, and writing generally is becoming more informal and effectively colloquial. To answer your question, I don't know if it would improve understanding, but it does speed up communication. We are evolving to take in more information at a glance, and that information is spatial rather than linear.

To me, communicating through visual images, as you put it, becomes very similar to a drama play, and by extension to movies, cartoons and a certain category of paintings. The organization of the message is spatial, layered, complex and very personal. The intention to communicate something to/with a recipient dominates the visual composition and proposes thus a phenomenology as a source of knowledge for understanding each other. This approaches Kant's idea, since he argues that all we can know is through phenomena only. Communication becomes performance, in the theatrical sense of the word, and this would make it also more authentic than a verbal message, I think.

To conclude, it is obvious that there is a communicative advantage in using visual images. However, the supremacy of the word is not released yet. As Bolter (2001) puts it, at this stage, the visual is to be seen rather as a reverse ekphrasis, i.e. to make images do what words do. At the other hand, the written language never escaped the frame of the visual (e.g., letters and graphic design, lay-out). It seems a paradox.

There is thus a tension to be solved between concrete and abstract, between synthetic and analytic, and the power of messages attached to each of these content types. Some religious thinking bans the visual; this rule either suggests the visual is more powerful (although not invoking evolutionary reasons) or rather inappropriate (because of its immediacy, which absolves the analytic). Written text is based upon abstraction, which is seen as a vital requirement in a representation system (Stenning, 2002). But when visual communication is facilitated, the need for writing down experiences in language and text diminishes (Bolter). If modern technology moves us from the discoursive to the agglomerative (Bolter, Stenning) and boosts our natural need for visual images, if the written language would succumb in front of the visual, what is the cognitive shift humanity will make? This remains an open question.

[3] Visit sikuli at *http://www.networkworld.com/news/2010/012110-sikuli-scripting-language.html?*

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