

Gerry Leonidas: Designing for the future: diverse and inclusive typeface design by default

Hong Kong Design Institute (October 2021)

00:00 - 00:11:

Hello, I am Gerry Leonidas. Professor of typography at University of Reading. Thank you very much for the invitation to deliver this keynote. Today, I'm going to talk about diverse and inclusive typeface design.

00:11 - 00:23

By diverse, I mean a process that is open to innovation, to exploration and draws on the full [depth] of culture and tradition to invent new forms.

00:23 - 00:36

By inclusive, I mean that the process is open and welcoming to all new entrants to the field regardless of background and perspective, and critically responds to their work rather than through previous biases and prejudices.

00:36 - 00:48

By default, I mean that these processes are integrated into education processes, our business practices, and the way we discuss the subject, rather than something that is added on top of the process after the fact.

00:48 - 01:08

And by typeface design, really, I mean all the aspects of making forms for use by readers. Since their start of education, primary, secondary education, and then higher education. As well as the way we design, market, promote, and vibrate typeface.

01:08 - 01:31

To do this, I use a series of values to look at typeface design. They are not mine. They are from a book by Marjan Unger and Suzanne van Leeuwen on jewellery, of all things, and they inform how we looking at a lot of cultural production. These values, I think, are very helpful as guides when looking at typeface design.

01:31 - 01:47

So if I am looking at a process like mechanical typesetting, I can see a machine that represents investment, represents risk. It also represents materials and resources that need to be obtained from somewhere, an investment that has opportunity cost.

01:47 - 01:58

This technology also represents skills that need to be taught, technology and knowledge that need to be transferred, personnel that need to be trained and then kept on, because they also representing investments.

01:58 - 02:10

[The technology] Also represents technical limitations for how things can be reproduced, and connections to patterns of trade and employment. In this case, the unionisation of labour, paths into careers, and so on.

02:10 - 02:25

And all that before we talk about the form of the typography that emerges from these machines. I can look at the full length of the production process, and try to had this ties into the process of the industrialisation and organisation.

02:25 - 02:53

Entries into careers again, and what these mean, for the futures of these people. When technologies change, I can see how these things apply differently for different parts of a demographic, how they represent different opportunities, but also limitations like “glass ceilings” for some members of the society, and how technology enables new ways of interaction. In this case, it also allows the location of the office near the clients, rather than the industrial park outside cities.

02:53 - 03:03

We can look at how technologies develop for one script, and in this case, for hot metal technology developed for the Latin scripts, or a particular version of Latin script, to be precise.

03:03 - 03:20

And how it is applied to another script, in this case, Arabic, which has to carry all the limitations coming with a system for the Latin script. The obvious one here is the limitation in the character set,

but in this case it might also mean the decomposition of joined forms in this script, since [in this technology] it is very difficult to conceive of connected, uninterrupted, fluid forms.

03:20 - 03:26

These conventions transfer across technologies. Nowadays we might see digital environments that maintain the same ideas [as previous technologies].

03:26 - 03:37

This is everywhere around us. For example, the approach of expressing forms with fixed outline boundaries has roots in the early mechanisation of typography.

03:37 - 03:47

And is very much presented in digital techniques today [which follow the same principle], without any serious thinking about whether this is the best way to represent letterforms?

03:47 - 04:02

The same thing applies to our way of producing knowledge. We are at the moment in a very interesting point of typographic history, where we are gradually deconstructing the very north-western bibliographies and their narrative of typography development.

04:02 - 04:14

We are moving away from the idea of established old “giants” of typography, usually white men from the north-west, who had very particular ideas about the contribution of different communities to design.

04:14 - 04:35

But alongside them are our ideas about what is “well-formed” or excellent in design. So theoretical approaches to letterforms, like early modernist ideas [of modularity] that then were translated into post-war Swiss ideas about uniform modularity in typefaces.

04:35 - 04:55

These ideas were extended into whole programmes of design study, and then transmitted globally as ideas about ideal forms.

These very central-European approaches to typeforms are really not very well adaptable throughout the world. These have arguably caused a lot of damage in our typeforms today.

04:55 - 05:06

This is thankfully being counter-balanced by a lot of activity by newer scholars who are rooted in, and draw on their own traditions, from locations throughout the world.

05:06 - 05:15

They are producing scholarship of the highest order, that has both qualitative and quantitative research, that is shared and open, and provides examples of how to move forward.

05:06 - 05:26

So thinking about how we can support things going forward, we have to think what exactly are we supporting with our work. What are languages? What are the forms that the languages takes?

05:26 - 05:47

The canonical form of a language is represented perhaps by the state education system. And what is the language that minorities speak? Or different segments for the population, with local variations? This relates to what are distinct languages or variations that we might not want to recognise as belonging the wider community, because they have political dimensions.

05:47 - 06:31

All of these things are important, but they also have important typography dimensions, because we need to define character sets, and define features of forms, and how they assemble. We might need to design orthographies, spelling, hyphenation regulations and so on. That is really most important in areas where linguistic and literary traditions extend to hundreds or thousands of years. Regions like east Asia have traditions that go back hundreds of years that are written. And the language changes over time. So to have a simple model of a fixed version of a language that doesn't change through times, is neglectful of the depth of history and the richness of the culture.

06:31 - 06:55

That is very much brought to the fore by lots of new developments. This is a relatively recent news article about a researcher publishing a thesis in a traditional language that was not previously part of academic discourse. This kind of inclusion is important, and shows how much ground still needs to be covered.

06:55 - 07:09

Similarly, we see in regions where there are a lot of overlapping communities, that a very significantly effort is required to support these communities fully with their own typographic resources.

07:09 - 07:44

I think central in this effort is the concept of “fonts as infrastructure”. This is a part of piece of work we have been doing with Pathum Egodawatta, based in Sri Lanka. This is hopefully leading to further research in the coming times. We are trying to position fonts as absolutely central in cultural output in all aspects of society. And to develop this we have identified levels of the support we may expect in all languages.

07:44 - 07:57

So of course we start with the absence of support. This is something that is clearly evident in environments where people interact with the means of production by making marks manually.

07:57 - 08:16

This happened traditionally in typewritten documents like this. In this case the second script is written by hand. Or in cases, where the script is not supported, it has to be written by hand and photographically or lithographically copied.

08:16 - 08:30

This system allows a lot of flexibility to the maker of the marks to exactly present the form they want, but there are lots of limitations in transmission and coding for the system. And this serves often as the beginning of specifications.

08:30 - 09:02

At the first level we have a very simple representational form, a lot of early computer systems do this, and essentially they translate a script in a very simplistic form. This is a single, unique representation for each character. Often these system don't even have basic encoding, so they only work in closed systems, like the

early computer typesetting environments for non-latin languages such as Greek, Cyrillic, Arabic. It is characteristic to have in this early stage of development a very simple solution, which only works in these closed communities.

09:02 - 09:16

The next step is one of applying one standard encoding — in most cases unicode - like in this very early example. And this defines a lot of legacy solutions that are with us today.

09:16 - 09:44

So we see in this deconstructive, almost simplistic approach to what a type form is: an application of Unicode encoding onto an extension of older ideas of typefaces. That often results to not very elegant solutions to support a script, which in this case is seen by the multiplication of very nearly identical glyphs.

09:44 - 09:54

At the simplest form this produces text that don't have a lot of typographic variations, but they are at least adequate to transmit documented languages.

09:54 - 10:11

And they failure of the system as seen when we can evidence in our platforms the absence of the representations of scripts. Now this is interesting where we see fonts that might transmit the encoding but not representation of the visual form of the script.

10:11 - 10:29

That is quite important because even if we don't think that representing a Facebook comment is relevant, the fact is that knowledge is lost, and the limitation that we see in the browser (or in this case, an application) might apply also on other more important documents, and then we see this is absolutely critical.

10:29 - 10:56

Related to this, is the ability to interact with the machine. Are the keyboards sufficiently complete to represent all the aspects of languages that we want to display? Are they usable? Are they easily accessible? And are they easy for people to learn how to modify them or extend them, and so on. And this is indeed one of the limiting factors of lots of developments, considering that most of the laptops we use have a similar model of interaction (a keyboard from previous technologies).

10:56 - 11:16

We are looking then at basic level of support for authoring. These things have to do with new kinds of documents, educational materials and so on. That is important in order to enable this script to survive. That means to train new generations of users, readers, authors and so on. And of course typesetting environments.

11:16 - 11:30

This is from what I showed earlier, the example of new forms of educational material which cover several scripts, for communities that are not part of their mainstream communities.

11:30 - 11:50

Related to this, an example like this which is a typeface developed for Brazilian indigenous communities, that has all the diacritics which is required for these communities, which are by convention oral traditions. And only later, do they adopt this script.

11:50 - 12:01

Going forward, we are looking at what are the essentials, or fundamental requirements for societies to operate. This is important resources for education, business and administration. These environments are around us everyday.

12:01 - 12:25

At this level, we would begin to see what we would recognised as “design” in the typefaces. Since they need to indicate hierarchies and relationships within a document. Most of the stuff we are used to interact with is part of at least this level, and it evident when we look at documents that have coordinated styles, mostly in weights, that allow us to navigate complicated documents.

12:25 - 12:44

Indeed at the heart of most modern systems, is a standardisation of weights and styles with a fairly shallow typographic hierarchy, of three or four levels, that surround us all the time. And indeed most of the systems we see can be translated into these very modular approaches to typographic hierarchies.

12:44 - 13:03

As we are moving in typographic development then more expect for attitude towards content, we are trying to provide accessibility to new uses and also a better support for things have to do with optical sizes, and also different categories of readers in documents.

13:03 - 13:18

Especially as we are moving toward a more inclusive conception what a reader is, the requirement to support properly readers with visual problems and also different modes of access, is central to this. And typefaces play a big role in this.

13:18 - 13:38

New forms of technology allow us to project typefaces in front of the reader with Augmented reality and virtual reality, are absolutely central to this development. We are just scratching the surface on research for typefaces for AR and VR, but this is going to grow very rapidly.

13:38 - 13:54

And on a more mundane level, applications which transmit the same kind of content along very different optical sizes and platforms and also modes of use, while appearing to be the same thing, must be coordinated stylistically and in terms of their behaviour.

13:54 - 14:37

Very relevant to this is the very rapid adoption of dark mode interfaces of the last year and a half, which shows very quickly how a new generation of readers is much more open to abandoning the imitation of paper for documents, and to adopt something that is more restful to the eyes and actually probably easier to read in the devices they are using. That of course has typeface design implications, because the typefaces need to adapt to a foreground-background resolution that is very different from previous conventions. And the rapid adoption of lower contrast typefaces is to some degree connected to this.

14:37 - 14:57

Going further, we're looking at developing typefaces that allow us to extend the support for different genres and provide support for different conventions. Things that have to do with specific uses, like blurring the boundaries between typefaces for reading and typefaces for copying from in education.

14:57 - 15:22

And more importantly, typefaces that support very interactive network-based approaches to documents. Indeed one of the entirely new developments in the last century and this century is documents that are a hub for multiple voices of authorship and commenting and so on. And typography is still adapting to this enrichment of typographic tools that we have.

15:22 - 15:51

This is interesting because it shows us how a very traditional idea of typeface design which would be just letterforms, and punctuation and so on, has to be extended to include symbols and representations that might be abstract: branding elements interact elements that have to be coordinated. So upvoting and downvoting and comments have to be seen as a part of interaction with document, and the symbols for these are a part of the document's typeface.

15:51 - 16:23

Lastly and probably less interesting since there is much activity already in this, the support of rich market solutions for documents that have to embody their identities without the materiality of printed documents. This is something that is going to be increasing and probably becoming much more active as we have more generations of readers emerging onto platforms that have no direct memory of learning how to interact with these documents in an analogue, materials-based world.

16:23 - 17:10

So what is interesting as we go from a situation where typographic conventions are based on genres of documents with very clear formats and static appearances, to formats that mutate into things that have open typographic expressions. They have bottomless columns, maybe they adapt flexibly to different formats and modes of display. And they interact much more rapidly to our way of using them. For example, by refreshing automatically and adding comments, we are looking at things that not just on their own anymore, but things that have these multiple environments all around them.

17:10 - 17:48

As we are looking at the evolution of document of fixed formats, defined by the materiality and their means of production, with

specific typographic conventions, towards documents that have flexible formats, very open expressions, adapt very much to user conditions and dissolve ideas of authorship and contribution, to absorb a lot of dynamic content. We need to be much more aware of not just the individual conditions of a document, but also the material, financial, emotional, social, cultural and historical context around it.

17:48 - 18:03

These are what allow us to understand documents as hubs, as networks of interactions, potentialities, and also ideas of agency, control, ownership, and the tension between tradition and modernity, renewal and conservation.

18:03 - 18:41

To do that we need to look at typeface design as a branch of Applied Humanities. This is an approach that allow us to borrow methodologies from established disciplines, and look at the environments of making and use of type to create knowledge about the human condition. It allow us to think about the tensions of societies today through the lens of typeface design, and how they embody the expression of these tensions in society, in ways that are visible, and we are able to capture and analyse with the toolkits that we have.

18:41 - 19:00

There are also extremely good lenses for us to think about how we respond to challenges in society today, and how our contribution, even in a field that seems on one level superficial, can be acutely profound, by enabling participation and the redefinition of our communities.

19:00 -

So thinking about these concepts: modernity and traditionalism, the strive for originality and innovation, the tension between authorship and ownership and sharing, the open access of information. And very fundamentally, the terminology we use: what language means when we interact with objects and how we specify our needs, expectations, and how we make things. That all contribute to placing typefaces at the centre of an extremely rich way of conceiving our place in a community and defining our role in it.

Thank you very much.