

The Riddle of Online Resonance

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Abstract*

This discussion paper explores the nature of online connectivity and, in particular, seeks to better understand how online connections are made in the very first instance of contact. There has been plenty of research on how to develop online connections once they have been made, but the question of how the initial contact is made has not received much attention. What is it that enables a potentially beneficial connection to be made with a previously unknown online communicator? We propose that the answer lies in online resonance, which we have called 'e-resonance'. In this paper we consider what the characteristics, affordances and affecting factors of e-resonance might be. What sparks it off? This might not be the content of the post, but rather a secondary topic such as a mutually shared interest. What are the key indicators of e-resonance? Are there any specific skills associated with e-resonance? In response to these questions we discuss the possibility of 'beyond verbal' communication and the importance of being able to filter and select information on personal and conceptual levels. We also consider what e-resonance might mean for the author and reader of online messages in terms of stimulating new thinking. E-resonance is a riddle which is relevant to connectivity and knowledge creation in the online environment. However, we conclude that the riddle of online resonance remains, as yet, unsolved.

* This paper has been published in 3 instalments at [Jenny Connected](#). Access to discussions about the paper is through the Jenny Connected blog.

1. Introduction

This paper/blog has arisen from the mutual interest of the two authors in online connectivity. George Siemens, in the 2008 *Connectivism and Connective Knowledge*

Massive Open Online Course (CCK08 - which both authors attended) has written about the primacy of **connection** for learning.

Connectivism emphasizes the primacy of the connection and suggests understanding learning is found in understanding how and why connections form. George Siemens (2009)

Learning through connectivity is not a new idea; there is a long history of research into networked learning (Steeple & Jones, 2002; Goodyear et al., 2004) and social learning in communities of practice (Wenger, 1998), but the affordances offered by Web 2.0 technologies and networked online learning for autonomous learning in an increasingly diverse environment (Downes, 2009) have led to many authors (Krebs (2002), Haythornthwaite (2002), Granovetter (1973, 1983), to name but a few) exploring how connections are made and developed in online environments.

However, much of this existing research focuses on understanding connections once they *have been made*, for example on how to increase connections and exploit the diversity that the web offers (Downes, 2007, 2010), or the types of connections that are made (Haythornthwaite, 2002). There is little research that we can find which explores 'how' connections are made in the very **first instance** of contact.

What is it in an online environment that causes/enables one person to recognise another, in that first instance of 'meeting', as a potential learning partner, colleague or friend and to make the connection? Trying to understand this question seems to be increasingly important in a world where learners can easily find themselves in complex open education systems. The freedom these systems afford can lead to **messy**, chaotic learning environments, which are a far cry from the tidy, goal-directed, message-**transfer** that is common to traditional learning systems. Learners can easily feel lost, unsupported and unable to find their way in the environment or make appropriate connections (Darken & Sibert, 1996; Mackness et al. 2010). A better understanding of how initial connections are made online is needed by both teachers and learners. We suggest that this might be possible if we consider more closely an intriguing, novel, promising phenomenon that is increasingly encountered in online work and which we want to call 'online resonance', or '**e-resonance**' for short.

What do we mean by e-resonance? When an idea or other element of an online artefact by an online author (A) 'resonates with' an online reader (R), and R

comments or responds, or at least will subsequently watch more attentively for more work of A, then resonance occurs. This resonance initially occurs on a social (person to person) level, but we will later see (in section 4) that e-resonance also involves the conceptual level and, furthermore, links the two levels in a very singular way.

Outside the online world, patterns of interpersonal exchanges have long been described by acoustic metaphors such as "it *resonates* with me" or "it strikes a *chord*" or "we are on the same *wavelength*". When encountered in online exchanges, however, these metaphors assume an entirely new frame of reference. What is novel and unique about this is not only the range of promising, powerful affordances of resonance in the online environment (see section 5) such as **facilitation** of learning connections, **stimulation** of unexpected ideas and **filtering** out of essential aspects, to name a few, but also the complex, baffling process of igniting the resonance effect, which can hardly be predicted but can be clearly identified when it has happened. While it is possible to identify some *criteria* for determining when it might happen (see section 4), for describing some *factors* that are associated with it (see section 6), and for approximately describing the *mechanics* of how it works (see section 3), the exact *reasons* for *why* it happens, are even more difficult to pin down and might remain a riddle for quite some time in the future.

In writing this paper we have not attempted to solve this riddle, but rather to explore its unique characteristics, with a view to increasing our understanding of online communication and how this might differ from face-to-face (F2F) communication.

2. E-resonance and F2F communication

Much has already been written about the differences between online and F2F communication (see for example Jonassen & Kwon, 2001; Conole et al. 2006; Creanor et al. 2006; Sharpe et al. 2005), but considering them from the perspective of e-resonance provides an additional/alternative perspective.

A core difference between online and offline communication is that offline we are **immersed** in a common environment which forces people at both ends of the communication channel into a binding protocol of understanding, asking back, or

contradicting. Online, we are asynchronously situated at our own ends of the communication channel, having the freedom to **pick** distinct aspects to mentally engage with, interpret them **individually** and **independently** of others and then decide whether to react (arguing or affirming) or just skip them.

Another difference is that offline any minor misunderstandings in the conversation can be quickly resolved through questioning or reacting. Conversely, major misunderstandings or talking past each other might go unnoticed or be ignored, leaving the illusion of successful communication, which can often be the primary goal. In contrast, online we have more freedom to disregard and ignore elements of communication and engage only with resonating elements. As a result this online communication may be more thorough and **reflective**, whilst at the same time always offering the potential for replying, but not forcing this.

Perhaps the most significant difference between F2F and online communication is that the online environment offers a unique combination of the affordances of slower literal **reflections** and faster oral/F2F **reactions**. While literacy, as commonly experienced through reading books, typically offers more opportunities for reflection than orality, it has the shortcoming that reactions are slow or hardly possible, especially in the offline paper world. The technologically enabled online environment, by contrast, simultaneously allows for both quick reactivity and asynchronous slower reflection.

F2F communication therefore tends to aim for agreement through accommodation, tolerance and avoiding confrontation by talking past each other, even in cases of intellectual debate where communicators will agree to disagree. Asynchronous online communication, on the other hand, allows for more reflection and choice and the 'potential' to respond is more in the communicator's control. So trust, empathy, closeness and friendship, all of which affect learning and communication arise differently in the two environments (on and offline).

3. Characteristics of e-resonance

For this paper we consider resonance best explored in terms of *one-one* connections, as described in section 1 for author A and reader R, rather than one to many or many to one connections, which are often considered when investigating how online communication occurs.

Reflection on how any online connection is initiated, what might spark e-resonance, leads immediately to the realisation that e-resonance is related to common *thinking patterns* and **interests**. It does not appear to be related to the *age* of communicators, although their *cultural* backgrounds may be influential. These aspects are not surprising. Perhaps more surprising is that e-resonance does not necessarily involve **reciprocity** and should not be confused with *recognition*. It does not require a *response* to be made for it to occur; it precedes this stage of communication. Neither does it involve *acknowledgement*, nor the identification of something as having been previously seen, heard or known. All this would imply that e-resonance is under our control, whereas we believe that it relates to '**out of control**' unconscious communication. This being 'out of control' is in line with the complexity of online communication, where learning and connectivity are necessarily unpredictable, surprising and **emergent** (Snowden, 2007; Morrison, K. 2008). (See section 4 for further discussion of unconscious communication in e-resonance).

Whilst resonance is related to common thinking patterns and interests, this does not mean that it is related to 'same' thinking patterns and interests. Resonance is not about '*sameness*'. Rather it is about one or more '**similarities**', which may be nonverbal or 'beyond verbal' (see section 4). To find like-minded people who just share the *same* interest we could simply search for a suitable forum or other site. E-resonance is more than this.

The idea that resonance is about similarity rather than sameness is supported by the work of Etienne Wenger who writes that, '*When we engage in a conversation, we somehow recognise in each other something of ourselves, which we address*' (Wenger, 1998, p.56). Wenger is also clear that communication in a community of practice is not always harmonious. *What we recognise has to do with our mutual ability to negotiate meaning. This mutuality does not, however, entail equality or respect* (p.56). Likewise, the notion that e-resonance is about similarity, does not mean that it is always positive and harmonious. It can equally be disharmonious or negative.

Unpicking the difference between similarity and sameness further, the authors have discussed it in the following terms:

Imagine a world consisting of 995 rectangles and 5 parallelograms. We have ignored the parallelograms because our teachers have focussed on the tidy rectangles. Replacing rectangles with "successful message transfer communication" and parallelograms with "out-of-control communication with the chance of inspiring resonance", provides a picture for explaining the relationship between out of control communication and e-resonance.

E-resonance will therefore mean *different* things to different people and will be experienced differently according to the context. At initiation e-resonance might involve unspoken/ beyond-verbal sameness or similarities, about common ground and similar thoughts, but the verbal messages of the exchange itself might lead to difference and dissimilarity if this helps cross-pollination and **stimulation** of ideas. This mixture of intertwined verbal/ nonverbal and personal/ conceptual ingredients all adds to the riddle of online resonance.

4. Indicators of e-resonance

Whilst recognising that verbal/nonverbal and personal/conceptual ingredients are all intertwined, it is helpful to separate these out when trying to understand e-resonance.

On a personal and *social* level there are many indicators of e-resonance. These often have **emotional** or affective associations which may be articulated verbally or 'sparked' by feelings of empathy, excitement and stimulation evoked by the online message/post – as illustrated in the following blog post.

Resonance is an interesting concept. Whether it is a physical structural preference for threaded discussions and blogs, or a range of ideas or just writing style, inclusion of white-space, font selection and word choice in a catchy blog post title, some work products of otherparticipants just jump out and grab my attention. Before I know it, I'm connected to something old, something new and/or something borrowed. The give-and-take generated from the posts, comments, replies and feedback is exciting as well as informative. This is so multi-faceted that determining how this happens is way beyond me. Suffice to say it is a fascinating topic in itself. (Blog post: Nov 25 2008: Learning Online. Science

learning and community engagement. Retrieved 29-08-2010 from:

<http://learningonline.blogspot.com/2008/11/cck08-gift-horse.html>)

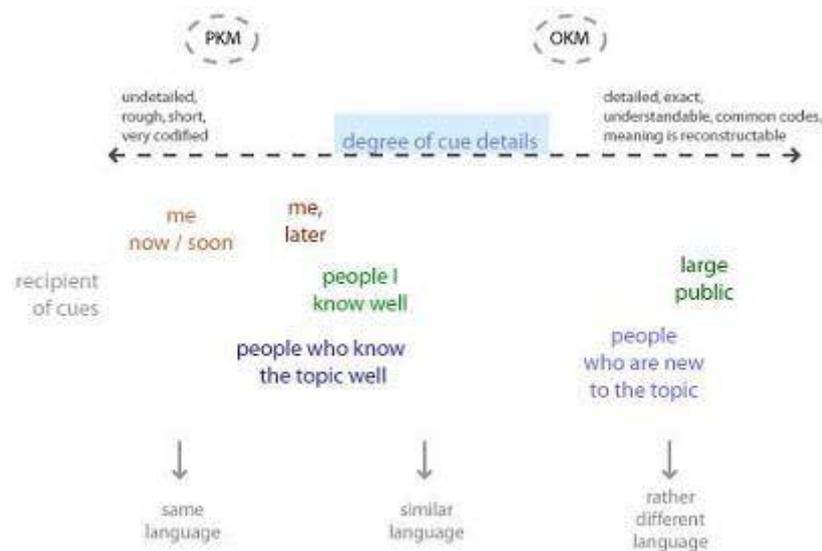
The resonating post might also fulfil a previously unrecognised gap or need in the reader's learning/experience leading to new *aspirations* and stimulating further interest. Alternatively, it might not be the content of the post itself that 'sparks' the resonance, but rather a **secondary** topic, such as a mutually shared interest, which is revealed on the online site. Thus the initial resonance on this personal and social level may not be caused by the original message intended by the author. Despite this the post may answer questions that are personally current and relevant to the reader, or 'catch the eye' through **key words** that are significant in some way, perhaps presenting new possibilities or a 'rarely found' way of interpreting the topic. The authors have considered this 'relating to a topic in a rarely found way' as follows.

*If two concepts are normally regarded as rather distant, and a long argumentation **chain** is needed to get from one concept to the other, then a trigger for resonance might be if a blog post contains these two concepts close together or with a short argumentation chain. Although the post might become less understandable for people who have not yet thought about these concepts, it will catch the eye of the person who did care about it, and this, in turn, increases the feeling of connectedness between the two 'initiated' people. This resonance and connectedness cannot be 'sparked' simply by explicit mutual interests or catchwords that could be 'Googled', but is something that 'catches the eye' when you might not know why.*

The eye may also be caught on the *conceptual* level. As noted by Siemens (2008), connections do not only occur on the personal/social level, but also on neural and conceptual levels. If we see the result of resonance as an observable personal connection (manifest in, say, one's blogroll), we still need to consider how the conceptual connections are made. These conceptual connections are not individually observable (as sparking), but are gradually strengthening in a simultaneous fashion involving multiple verbal and non-verbal concepts. E-resonance on a conceptual level is like 'being able to see a lighthouse beacon in a conceptual fog'.

E-resonance can therefore be thought of as 'something *beyond*' the message content, something non-linear and non-linguistic, which offers the possibility of a 'glimpse into the mind' of an online author. Magdalena Bottger's (2005) diagram and discussion of how '*Pieces of information can (only?) be "cues to knowledge" which*

means they give us hints to the knowledge in our head', is helpful in trying to visualise what 'beyond verbal' might mean.



Source of diagram: Bottger, M (2005)

In this diagram, we can see that the *closer* we are to her individual, personal thinking, the more *un*-detailed, rough, short and codified her cues. The authors believe that in thinking of online resonance it is helpful to visualise 'beyond verbal' as even further left on Bottger's axis of degree of cue details. Perhaps online resonance is 'located' nearer to the recipient's *mind* than to the communication *channel*.

In relation to these attempts to understand what 'beyond verbal' might mean, it is interesting to consider the work of authors such as Downes (cited in Jones, D. 2010) and Wenger (1998). Both point to phenomena that go beyond the hitherto prevalent primacy of verbal communication that takes place in a **transport**-like fashion where, in principle, the meaning of a word in the sender's and recipient's minds match (sameness). For Downes (2006a) online communication and connection is about pattern seeking. Wenger goes beyond the verbal world with his emphasis on practice (in the semantic triangle this shifts the focus from symbols to the real-world referents), on doing and feeling and negotiating meaning. His concept of identity also allows for diverse aspects at both ends while still yielding successful communication and he allows for **vagueness** and similarity rather than sameness (Wenger, 1998, p.77).

These different approaches each implicitly acknowledge the possibility of 'beyond verbal' communication and a deeper level of understanding through less formal modes of communication and online resonance.

The authors therefore suggest that the key indicators of e-resonance are associated with **beyond verbal eye-catching, filtering and selecting** information, on personal and conceptual levels, within the online environment, which should not be confused with conscious information *searching* activities. The authors discussed this as follows:

This filtering is not an active exercise, but more passive, rather like laying traps or casting a net or using many fishing rods. It is a serendipitous pleasure when somewhere among the many rods and vast fishery nets of an RSS aggregator, some resonance indicates a catch.

An alternative analogy for the unconscious nature of e-resonance could be in trying to see falling stars. To discover a resonating conceptual aspect and probably also a resonating personal trait (one mediating the other) is as if you wanted to discover a falling star: If you consciously watch out for one in one corner of the sky you might overlook it elsewhere, and thus "continuous hovering attention" is probably more promising. It is also a fact that the more light or distraction, the harder it is to see the stars. The lack of non-verbal visual cues in the online environment, such as tone of voice, facial expressions, gestures and physical appearance, similarly offers the possibility of fewer distractions. Traditionally, this lack of visual cues has been seen as a source of difficulty in online communication (Harasim, L 1987; Garrison et al., 2000) but the authors suggest that the chances for e-resonance and spontaneous, **serendipitous** selection are increased with fewer distractions.

5. Affordances of e-resonance

As we have seen, e-resonance occurs at the beyond verbal and beyond words level. It is more unconscious than conscious and cannot be controlled, but the online environment does have qualities that allow for e-resonance to occur.

A significant affordance of e-resonance is the possibility of **sparkling** new connections (which can be conceptual, social and/or neural) and increasing creativity. George Siemens articulates this in his blog (2010) when he writes:

"[Dave Snowden] presents his ideas in a manner that resonates with the audience. Great ideas need to be presented in a manner that sparks new connections and a desire for creativity in an audience".

From this we can see that affordances can be both for the *reader/commenter/ 'reactor'/resonator* and for the *author*.

For the *author* the affordance of resonance is through the **selection** of aspects of the author's writing by a reader/commenter, which can lead to further stimulation and inspiration through iterative feedback. This is where the combination of conceptual and person-to-person aspects of resonance works clearly like *interplay*, while in other cases, it becomes an entangled *mix* and the 'riddle' comes into play.

For the *reader* the affordance of resonance is through **stimulation** of personal 'new' thinking. The question of whether resonance leads to 'new' thinking is worthy of further discussion as it is considered a major affordance of online resonance. Can we say that a reader/resonator's 'new' thinking really is 'new', in the sense that it in no way originated from the author? Can the adjective 'new' be justified? The key to the justification and explanation of this idea lies in the concept of 'beyond the verbal' message (see section 4). If the idea for one's own *new* thinking was **not conveyed** in the verbal message but via the accompanying components of the resonance phenomenon (as identified section 4), then it is reasonable to speak of 'new' because it was not articulated. This can be illustrated by the case where an online post might raise the same questions that the reader already has, or where the words alone do not do enough to stimulate interest and only vaguely identify the matter. If the accompanying resonance guarantees that the aspect is of interest to both reader and author, but that this has not yet been articulated, then the thinking is 'new'.

If the idea for one's own new thinking was *not* conveyed via the accompanying components of the resonance, then there seems to be a very special **mix** of *similarities* and cross-pollinating *diversity*, of the *verbal* part of the message and the *accompanying* resonance phenomena and of the *person-to-person* and the *conceptual* level. This is important to recognise, since an affordance of resonance is not only the stimulation of similar ideas but also the stimulation of *dissimilar* ideas via the similarities involved in resonance. Resonance does not imply a tendency to group think or 'echo chambers' (McRae, 2006) but rather the affordance of **diverse inspiration** resulting from divergent as well as similar ideas.

Thus the online environment enables e-resonance through connectivity and likewise the connectivity enabled by the online environment in turn enables e-resonance. Resonance itself affords the stimulation and sparking of new connections and ideas on social, conceptual and neural levels.

6. Factors that affect e-resonance

The authors suggest that there are various factors which affect e-resonance. Consideration of these is important if we are to support and enhance possibilities for e-resonance in online teaching and learning. These factors include the place and *location* on the communicator's cognitive and network maps, the *interplay* between personal and conceptual resonance, the lack of visual and auditory *cues* and the increased possibility for creating *weak ties* within an online environment.

The *number* of connections that people have and how well connected they are will obviously influence the potential for e-resonance. Lilia Efimova (2009) has suggested that frequency of communication, the use of **multi**-channels of communication, affinity, commitment and attention are all required for establishing and maintaining online communication. The authors' experience suggests that multi-channels of communication may not be needed for e-resonance but that at least one *second* channel is necessary for affinity, commitment and attention. This can be as simple as appreciating the banner on a person's blog to discovering an unexpected shared interest.

In addition the nature of e-resonance will depend on the exact and unique *location* of a person within their network and their personal cognitive map at any given time. Resonance occurs because the post 'strikes a chord' at exactly the *right time* in this given network, map, *context* or place. It will also depend on the person's ability to filter and select the exact resonating idea from a number of ideas presented by the author of the post. This **selection** maybe unconscious and may result from an interplay between personal and conceptual resonance and involves an *asymmetric* process. For example:

If a person 'A' notices that 'this thought B4' of person 'B' resonates with me, then there is a selection being made from among say, nine thoughts B1-B9. And when 'A' elaborates the similarity of her thinking (or at least puts the resonance into some context), she thereby identifies an idea, say 'A6' from her ideas A1-A9 depending on her view of A5-A7 and suggests some

connections from concept 'A6' to 'B4' (not simply from person A to person B). In turn B learns about the selection of A6 from among the A1-A9 that he might already know or discover on A's site.

This process of selection of a resonating idea, whilst most likely to be unconscious and uncontrolled, is supported by the lack of auditory and visual cues within an online environment, which allows for conceptual connections to be more prominent and less influenced by personal and physical attractiveness, **appearance**, charisma and personality.

Finally, not only the number, but also the nature of connections within the online environment will affect e-resonance. Much has been written about weak, strong and latent ties and the strength of weak ties, which Haythornthwaite (2002, p. 387) describes as being in ...' *their connection to others outside the strong tie network and to the information and to the information and resources circulating in other areas*'. This view of the strength of **weak** ties is supported by Schulmeister (2009) who writes that a discourse analysis of small networks, consisting of strong ties, has shown that they are so emotionally charged that rational discourse rarely occurs. Other authors such as Downes (2006b) and McCrae (2006) have also written of the dangers of *group think* and echo chambers in constraining free flow of ideas and creativity. From this it would appear that ties can be at their most valuable when they are at their weakest and just beginning to form, that is, when **initial** resonance occurs.

7. Conclusions

The authors present this paper for discussion. Whilst much has been written about fostering and developing online communication, little, if anything, has been written about how online connections are made in the very *first instance*. The authors have suggested that this be termed 'e-resonance' and have attempted to describe the *mechanism* of what happens when an idea or some micro-content strikes a chord or *resonates* with someone else, and when that other person's *reaction*, in turn, influences the first person's conceptual network.

In seeking the answer to this question we have come to some conclusions which we believe to be significant for teaching, learning and communicating within online environments.

First is that resonance happens **indirectly** rather than directly, just as children's learning of words happens by indirect rather than direct effects (Landauer & Dumais, 2010). E-resonance is unconscious, uncontrolled and is most likely to occur in the 'messy', 'vague' communications between very weak ties.

Second, there are skills that online learners rely on to support the likelihood of e-resonance occurring. These involve being able to **filter** and select from a wide range of information, even within one post, if resonance is to occur. The parts of a text that do resonate with someone else are a very significant selection of the entire text because this selection does not necessarily indicate just some validity measure, but a conceptual **connection** within someone else's cognitive network.

Third, online connectivity is as much about interconceptual connection as interpersonal connectivity. The potential for conceptual connectivity is increased in contexts where e-resonance can flourish, because e-resonance occurs at the level of 'meeting of **minds**' free from the distractions of physical and visual cues. It occurs at a '**beyond verbal**' level.

Finally, e-resonance is not about 'sameness' but about **similarity**, which can also support dissimilarity. It is likely to be constrained by strong ties, group think and echo chambers.

The authors therefore suggest that further consideration of e-resonance and how *initial* connections are made between online learners will be important in furthering our understanding of online connectivity. The riddle of online resonance remains unsolved.

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