What Can the History of Emotions Learn from the Neurosciences, if Any?

Abstract

This paper aims at 1) shedding critical light on the intellectual challenges and problems that the neurosciences pose to the history of emotions; 2) positioning the historical discipline tentatively within the emerging field of critical neuroscience that problematizes the brain scientific data on human emotions and experience from social and cultural viewpoints but nevertheless acknowledges the possibilities the brain sciences offer, and; 3) aims further at suggesting theoretical insights that may help to bridge the intellectual gap between social constructivism and “hard sciences”.

The last decade has seen a wave of scholarship on both the history of emotions and the affective neurosciences. Both disciplines promote the view that emotions serve partly cognitive and goal-driven functions and are thus susceptible to change. Differences are, however, marked in understanding the nature of the change. Is it rooted in social constructivism or neuroplasticity? Are these two paradigms mutually exclusive or compatible? Is it even possible or intellectually sound to utilize “laboratory-produced” and isolated data to historical studies? Nevertheless, the paper suggests that the interplay between the historical and brain scientific knowledge may be more fruitful than has previously been understood. Thus far the implications of the brain sciences for the history of emotions have been relatively uncharted.

The paper proposes an intellectual move from linguistically defined constructivism towards more corporeal understanding about emotions with a constructivist element. This leads us theoretically towards understanding about emotions as historically changing experiences and intellectual concepts, which, however, have certain pan-human, recurring and ahistorical aspects. The paper highlights the intrinsic relationship between pan-human traits and cultural, normative and temporal variance in emotions and considers the role of emotions as agents in history. However, the paper sees the methodological difficulties and dangers of implementing specific brain scientific data on historical study. The difficulty arises mainly from the academic distance between the history of emotions and neurosciences. The paper suggests taking up a task of writing an emotional history of brain sciences as a starting point for understanding the pinnacle role of neurosciences in modern world.
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Neurosciences are a constantly evolving field of the life sciences that often claim to possess the most innovative tools for uncovering the yet unknown mysteries of the human mind and especially of the emotions. Brain scientists have also emerged as fashionable popularizers of their field and thus scientists of the affective neurosciences are generating a distinct discourse on emotions, which may be changing the way we understand them.

Feelings are indeed interesting for brain scientists as they seem to connect the non-conscious and cognitive, or the biological and cultural, capacities of the human mind. This is where neurosciences differ from for instance cognitive sciences. For a long time cognitive scientists dismissed the emotions as non-cognitive and uninteresting phenomena but for the last twenty plus years have sought to translate them as intellectual and intentional “thoughts”. This resembles the way the discipline of the history of emotions has usually understood the changing emotional rhetoric and expression in the past. It has been the most convenient for historians to look at emotions as cultural and socially constructed artefacts and, indeed, “thoughts”. Interestingly, a number of neuroscientists have also concluded that the separation between emotion and cognition is scientifically artificial – human thought is emotional activity and emotions are thoughtful.

There seem to be persistent epistemological differences between human and life sciences addressing emotions. However, for all the seeming differences, one is able to find common ground. Both disciplines promote the view that emotions serve partly cognitive and goal-driven functions and are thus susceptible to change. Brain sciences and related fields have eradicated Cartesian dualism between the body and the mind and human sciences have also all but destroyed the persistent divide between rational reason and irrational feeling, which in itself has been a Western, culturally-shaped concept. Cultural studies treat emotions, or “affects”, as embodied.

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1 An overview on the application of cognitive psychology in the history of emotions can be found in Reddy 2001, pp. 3–33.
2 E.g. Pessoa 2013.
cultural phenomena, which in turn may not be that far away from the interplay between the adaptive body/brain and changing environment supposed by neurosciences.

Yet, the historians of emotions have been rather reluctant and critical towards integrating neuroscientific views to their discipline, many times for solid reasons reflecting the academic distance between history and presentist and rapidly evolving and changing brain sciences. However, advances in brain sciences have already been taken into consideration by the social sciences and tentative steps towards dialogue between different disciplines have been implemented in the new field of critical neurosciences, which aims at bringing the culture and the social back into the research of the human brain potentially offering fertile ground for interdisciplinary approaches.

One of the reasons for the urgent need of dialogue has been, undoubtedly, the pinnacle status of the neurosciences within the Academe and, as it is, in wider society. As sociologist Nikolas Rose has demonstrated, the “brain” has frequently been equated with the “mind” not only within the Academe but in popular presentations as well. The one, who understands the brain, has taken the front seat explaining the human mind. For obvious reasons, there are epistemological problems in this view, but moreover, this view poses biopolitical problems, as neuroscientists have been consulted as experts in criminal trials and for instance in social policy initiatives. However, a critical stand towards the social implementation of brain science does not mean its dismissal but understanding how the society, human body/brain and cultural meanings are embedded and constantly influencing and reworking one another. The old Cartesian perspective deposited life sciences squarely within the universal sphere whereas human sciences explored socially constructed culture. This clear-cut division has not for a rather long time seen a viable one. Culture and biology cannot be separated in human consciousness.

Considerably more difficult than making this theoretical statement is, obviously, to implement it methodologically. Historians of emotions have recently been alerted to integrate “biology” into their field. This is demonstrated for instance by the recent methodological volume on the emotions history edited by Susan J. Matt and Peter N. Stearns titled Doing Emotions History (2014). A historian of religion John Corrigan states in the volume that the challenge to the

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3 Choudhury & Slaby 2011; Journals such as Social Neuroscience and Social Cognitive and Affective Neuroscience have been recently dedicated to the social brain sciences, although their focus has so far been rather “traditional” neuroscience, i.e. dominated by laboratory settings and brain scans.

4 Rose & Abi-Rached 2013, pp. 47–52.
understanding about the emotions posed by powerful life sciences, or “biology”, how many of the
authors call natural sciences, should in one way or the other been taken into consideration in the
history of emotions. No one seems to be sure, how this is going to happen, though. “Biology can
and should be integrated into that enterprise [emotions history], though how and to what extent
that will permit an integrated interpretation is still an open question”, Corrigan writes.⁵ In the
“Afterword” of Doing Emotions History Matt and Stearns confidently write that the “steady
development of research in neuroscience cries out imaginative combination with history”.
Acknowledging the methodological difficulties in the combination of the two, the writers
nevertheless expect more innovative research in the near future.⁶

Perhaps the difficulty arises from the rather old-fashioned perspective on the “biology” as
representing deterministic genes. Admittedly, many of the (evolutionary) biologists see emotions
primarily as hardwired and genetically programmed constants, a view, that many evolutionary
psychologists share. Tentative enterprises in combining evolutionary psychology in historical
research may have resulted in rather clear-cut divisions between universal and deterministic basic
emotions on the one hand and the less important cultural changes and nuances on the other
hand. It is difficult to see a common ground in this enterprise although few historians are willing to
deny basic evolutionary assumptions. The problem is that evolutionary psychology is not
interested in historical change per se but in evolutionary history and thus emotions remain merely
biologically constituted reactions to events, not varied actions supposed by the history of
emotions.

The deterministic perspective relying on the assumption of “basic emotions” is not, however, the
view shared by a growing number of neuroscientists and many other practitioners of the life
sciences. I am not a trained brain scientist and therefore am not capable in dwelling in the
intricacies of the discipline in detail but suffice it say that today’s mainstream neuroscience has
come far from seeing humans as programmed or hard-wired “walking brains”. Thus it is interesting
to observe that at the same time as understanding the brain has been equated with understanding
the mind, the brain sciences themselves have become more open for social and cultural
approaches. Paraphrasing Nikolas Rose, today’s brain sciences see humans again as people who

⁵ Corrigan 2014, p. 158.
have brains. The brains shape the person at the same time that the person shapes the brains. Brains have suddenly become social.⁷

Plastic and social brains have perhaps become a catch words that suggest to explain everything in the similar way that localization of certain emotions and actions into brains used to, but nevertheless this shared understanding of ever changing brains has opened up a promising way to combine culture and biology. Biocultural approaches to the emotions have recognized that language and “culture” shape the neural connections in the brains and thus our emotions – even genetically identical individual brains are never the same nor are brains from different cultures or historical eras.⁸ For brain scientists this may have seemed a revelation but for historians it seems rather self-evident. The way we understand emotions changes and the style we experience emotions changes as well. However, it is interesting to observe that neuroplasticity may come close to the definition of social constructivism (at least in its modest, non-relativist mode). Biology may thus even confirm what social scientists have thought of the human experience for decades. Neuroplasticity, however, is not a constant. As people grow older the capacity of the brains to adapt diminishes although it seems never to cease.

Of course, there is neurohistory, or “deep history”, founded by Daniel Lord Smail, who traces the interplay between changing human environment and the human body and mind by utilizing neuroscientific and evolutionary hypotheses. As he states in his recent article, the approach of neurohistory

“[B]egins with the principle that the human brain is relatively plastic and therefore continuously open to developmental and cultural influences. This does not mean that we should treat the brain as a blank slate. Instead, such influences, as they interact with given brain/body systems, can generate unpredictable forward-acting effects”.⁹

Reliable historical sources may prove to be a major problem in this enterprise as well as the rapidly changing hypotheses of the brain sciences. However, his endeavor points in the direction of understanding how history and the social and physical environment is ingrained in the human

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⁷ Rose & Abi-Rached 2013, pp. 151–160.
⁸ Blonder 1999; see also Choudhury 2010, pp. 159–167.
⁹ Smail 2014, p. 110.
body and brain, and how, vice versa, the adaptive human body and brain shape the environment and culture in time.\textsuperscript{10} A historian of religion Robert C. Fuller has taken an ambitious task of telling the story of “religion in the flesh”, or how human biological and neural make-up has made us inherently prone towards religion, yet at the same time not one deterministic path leads people to express their spirituality, if at all.\textsuperscript{11} Obviously, similar problems than in Smail’s enterprise exist in Fuller’s, although in some degree this is true in every theoretical adaptation in history, be it psychoanalysis or cognitive psychology. Natural sciences can (seemingly) claim to be universally adaptable at least in some degree, whereas modern psychological theories are certainly shaped by today’s society.

Some of the historians are surely tempted to dismiss the above-mentioned examples as tautologies. Yes, human biology is an inescapable fact that sets certain but not easily determined limits to human experience, but if it does not determine human culture, knowledge, emotions and actions, why bother researching it at all? Is it not more convenient to just leave it to biologists and brain scientists and concentrate on what we know the best, historical change and social constructivism?

Human brain/body exists in history, therefore neurosciences need history. Furthermore, I argue that we cannot dismiss the brain sciences because the brain sciences do not necessarily dismiss culture (although as a presentist field of science they often dismiss history). Human experience and symbols do not reside purely “out there” in the cultural web in a Geertzian fashion but they are embedded in our bodies and their neural networks. Nature and nurture are a two-way street, not a hardware and software application. I find the definition of culture as an always limited human enterprise to symbolize and share our inner feelings with other people as fruitful.\textsuperscript{12} Culture and human symbols do not reside outside or inside of us but rather in between and betwixt.

Post-traumatic stress disorder (PTSD) may offer a useful insight into the two-way street nature of brain sciences and culture. I am not going to evaluate the usefulness of PTSD diagnostics here, it is not my point. However, it is interesting to observe that it is impossible to draw a universal chart of

\textsuperscript{10} Smail 2008; for a recent very specific application of neuroscience on the history of hoarding, see Smail 2014, 110–122. The hypothetical, yet ambitious nature of his work is highlighted in the abstract of the article: “Using the coevolutionary approach intrinsic to environmental history, we can treat the rise of compulsive hoarding as an emergent phenomenon generated by the unpredictable ways in which cognitive and endocrinological systems have interacted with a changing material environment.”

\textsuperscript{11} Fuller 2008.

\textsuperscript{12} Fonagy. et al. 2002, pp. 3–8.
symptoms for traumas that have been resulted in otherwise comparable circumstances. There seems to be wide cultural and temporal variation in experiences that can otherwise be labelled as “traumatic”. In the Finnish case, for instance, the shell-shocked veterans of the Second World War rather often experienced as if they had been physically wounded or even dismembered although they did not have visible physical wounds or had lost any member of body. Somatic symptoms that imitated physical wounds were common elsewhere as well, especially in societies that did not accept a concept of individual psychological damage. In a way, being shell-shocked was a political statement. Yet, there seems to be little ground for claiming that war-related trauma or even modern PTSD is entirely socially constructed phenomenon. Trauma occurs when a person is pushed to his or her limits and is forced to experience something extraordinary. There is cultural and personal variation but one is usually able to find some shared symptoms across cultures and historical eras; hence PTSD symptoms change in time but an escape from biology is very difficult to justify. The Russian soldiers of the First and the Second World War have in some studies been reported of not suffering from “Western” traumas. Perhaps not but that does not mean that they did not suffer from anything. Psychological and individual trauma was not recognized in Russian society of the time but at the same time desertion and self-inflicted wounds abounded in the ranks along with mutism, convulsions and fatigue – similar symptoms than their Western fellow combatants experienced. However, it is clear that biology or genes do not determine human experience as such. Fear of air raids and shelling are obviously alien feelings to early modern people. Yet the social, cultural and temporal variations have biological limitations; human response to unimaginable events tends to produce similar but not the same symptoms. Critical neurosciences and plastic brains could offer a middle ground to observe traumatic experiences in history.

Towards embodied understanding about emotions?

This paper has suggested an epistemological shift towards corporeal understanding about emotions and social constructivism. This leads us theoretically towards understanding about emotions as historically changing experiences and cognitive, intellectual concepts, which, however, have certain pan-human, recurring and ahistorical aspects. Inevitably, this

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13 Kivimäki 2013, pp. 60–66 and passim.
epistemological shift brings the non-conscious back to the history of emotions. Interestingly, differences are marked between psychoanalysis and modern brain science but what these disciplines share is challenging the view that “consciousness is the master in its own house”. The Self is not a master of oneself as many of the processes in the brain and nervous system occur non-cognitively. Yet, neuroscientific emotions are also intellectual and thus susceptible for navigation and cognitive change. Obviously, the acceptance of neuroscientific view leads to an intellectual problem that cannot be discussed here at length. In a nutshell, if one seeks to adopt a neuroscientific explanation of the “synaptic self” that integrates the culture and physical environment as a starting point, one may be on a path to reductionism. For instance, what is the concrete aid brain sciences could offer for the study of collectively shared emotions and emotionally charged symbols? Not that much.

Although sympathetic towards theoretical advances brain sciences may offer, the paper, at the same time, sees the methodological difficulties and dangers in the adaptation of “corporeal constructivism”, which need further exploration. The historians critical towards the adaptation of neurosciences to the history of emotions have pointed out that one of the greatest mistakes one can make is to pick up a fashionable theory of affective neurosciences and base one’s historical research on it. Within a few years, the theory will in most cases be debunked or developed considerably further whereas the life-span of good historical scholarship is expected to last considerably longer. Moreover, history does not happen in a lab. Brain scientific knowledge is produced in an artificial setting that differs from everyday experience – and many of the experiments are conducted on animals. The laboratory is devoid of much of the human meaning given to one’s being in the world. Last but not least, many a social scientist and historian alike have noted that brain sciences (or their popularizations) make very strong social claims based on rather thin evidence. One of the examples are the “mirror neurons” found in the mid-1990s in monkeys and in humans soon after. “Mirroring” was rather shortly established as the proof of the foundation of human reciprocity in feeling and, indeed, in culture, language, religion, and the entire sociability of humans. Everything only for rather vague evidence that when fellow human

15 Rose & Abi-Rached 2013, p. 200.
being or a monkey was seen performing certain task, the corresponding neurons of a passive person or monkey were firing at the same time.\textsuperscript{18}

Indeed, it is not a task of an historian to concentrate arguing which neuroscientific theory can explain the emotions in the past, if any. What we can do, however, is to concentrate on the question how epistemological challenges posed by the brain sciences could be critically integrated into historical scholarship. Based on a number of recent appeals for integrating “biology” into the history of emotions, this task seems unavoidable. The first step could be the debunking of the view of brain sciences as representing only universality as opposed to culture and social constructivism. Universal is cultural and vice versa – we live in an embodied and cultured universe. While emotions change and develop in time, there are pan-human, evolutionary, genetic and universal patterns in human emotional experiences. These aspects may not be mutually exclusive. Secondly, perhaps historians should concentrate on what they know the best. An emotional history of neurosciences, their origins, discourses on emotions and the emotional concepts they have produced could be a starting point.\textsuperscript{19} This problem could also lead to explore the question, as William Reddy has recently suggested, why the common-sense division between cognition and emotion continues to be so persistent in the European-influenced cultures, although even popular science does not share the view.\textsuperscript{20} At the same time it should be kept in mind that for the history of emotions brain sciences offer primarily a tool for posing new questions. There may be a number of fields in emotions history that will do well without brain sciences such as the study of politics of emotions or emotional communities.

\textbf{Bibliography}


\textsuperscript{18} Rose & Abi-Rached 2013, pp. 145–147; Plamper 2015, pp. 219–223.

\textsuperscript{19} There is an ongoing project addressing the history of science of the neurosciences by Joelle M. Abu-Rached.


