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Abstract

This article develops new theoretical connections that offer insight regarding the status and operation of emotion in digitally mediated environments. I draw on Gilbert Simondon’s concepts of emotion and affectivity—as key dimensions of his philosophy of individuation—to articulate an account that situates emotion at the heart of psychological life, while accounting for its role in the continuous practices of (re)solving psychic and collective tensions. Simondon offers a model of the psychological subject as operating simultaneously in and through relations with itself as subject and with itself as part of the collective. This informs the analysis in this article seeking to demonstrate that the reductionism and individualising operation of emerging digitised models of emotion render them of limited value to understanding emotional life in digital worlds.

Keywords

data, digital life, emotion and affectivity, milieu, Simondon

This article articulates a model of the psychological subject that emerges from the work of the French philosopher Gilbert Simondon, with particular focus on emotion and digital life. Simondon’s work on culture, technology, and psychology has emerged with significant interest in recent years across the social sciences, arts, and humanities ([Coté & Pybus, 2016](#); [Iliadis, 2013](#); [Tucker & Goodings, 2014](#); [Wark & Sutherland, 2015](#)). Simondon offers an

approach that is rigorous and full of theoretical specification regarding the genesis of individuals. His philosophy of individuation is not only applied to the living psychological individual, but also to physical individuals (i.e., technics), and he was influenced by a range of disciplines including physics, chemistry, biology, and psychology ([Scott, 2014](#)).

Simondon's philosophy of individuation is most clearly articulated in his doctoral thesis "Individuation in Light of Notions of Form and Information" (1964/1983/2020), published in two parts in 1964 and 1983 respectively. A recent English translation of his thesis promises to bring greater prominence to Simondon's thought in the English-speaking academy.

The aim of the current article is to consider the conceptual apparatus that supports Simondon's philosophy of individuation in terms of an ontogenesis of emotion in the practices of world-making that constitute psychological life. This distinguishes it from recent papers exploring the value of Simondon's philosophy for psychology, which have not explicitly focused on the role of emotion and digital life (although valuable insight regarding mood and emotion has featured, e.g., [Wrbouschek & Slunecko, 2021](#); and in relation to Simondon and Deleuze, e.g., [Tucker, 2018](#)). I argue that Simondon's philosophy is valuable because it can help in the development of a conceptually sophisticated account of the relationship(s) between individuals and digital practices that saturate our everyday environments. Digitisation takes many forms in contemporary life, for example, algorithms, social media, and artificial intelligence, which increasingly operate as dimensions through which individual life is structured. The analysis in the current article can contribute to the growing interest in the philosophy of Gilbert Simondon, with recent insightful articles unpacking aspects of his philosophy of individuation—which constitutes the main part of his ontogenesis ([Keating, 2019](#); [Wrbouschek & Slunecko, 2021](#)).

I examine key conceptual pillars of Simondon's philosophy, before considering their value in contextualising emotional life in the data-rich environments of our social worlds. The article will first unpick the central concept of individuation. Following that, the discussion will focus on Simondon's theory of emotion (as linked to affectivity). With a growing number of primary and secondary texts on Simondon being translated into English, his work is reaching a wider audience, with several general introductions to the novelty of his work published in recent years ([Barthélémy, 2015](#); [Combes, 2012](#); [De Boever et al., 2009](#); [Mills, 2016](#); [Scott, 2014](#); [Tucker, 2013](#)). Conceptual analysis in relation to technics, technical individuation, and "digital objects" exists in the work of [Bernhard Stiegler \(1998\)](#) and [Yuk Hui \(2012\)](#).

Additional literature has considered the value of Simondon's philosophy for understanding contemporary media technology through connecting to existing media theory (e.g., Latour, and Kittler, in [Mills, 2016](#)). What has not featured yet, is detailed analysis of his work in relation to psychic individuation, emotion, and digital life. Simondon presents emotion in a nonreductionist and nonindividualist way, which provides *broader* insight as to the extent of its role in the genesis and operation of psychological life. Furthermore, the focus on emotion is important given the growing prevalence of new emotion-focused digital technologies, such as the use of artificial intelligence (AI) and machine learning to categorise emotion through the quantification of physiological expression ([McStay, 2020](#); [Williamson, 2021](#)). The analysis in this article helps to critique such attempts, which is important, given the burgeoning power of their presence in multiple areas of life. Therefore, the aim is to analyse the potential value of Simondon's philosophy for psychology, in a way that captures notions of individuality, emotion, and digitisation. In focusing on psychology, this paper is not claiming Simondon to only be relevant to psychology and recognises that his writing also features extensive discussions that span a range of disciplinary boundaries, including physics, chemistry, biology, and zoology ([Barthélémy, 2015](#)).

Working with Simondon's thought requires substantial engagement with the main concepts in his ontogenesis. Connecting with them in an isolated way would be to misrepresent the *system* of individuation that constitutes his philosophy. As such, the first half of this paper analyses the concept of individuation—and the role of perception, emotion, and affectivity therein. The second half uses the example of emotion in digital life to offer a contemporary resonance of Simondon's thinking. Consequently, this article is not “only” an analysis of emotion in digital life, it is also an analysis of the importance of the concept of emotion to Simondon's notion of psychological life. Hence, substantive discussion of emotion and digitisation does not begin until the second half of the paper.

Simondon's ontogenesis of individuation

Simondon's ontogenesis is premised on the idea that preconstituted individuals are not ontologically primary. He develops a theory of the individual that does not rely on substantialism or hylomorphism, but rather on the *genesis* of individuals. Simondon's concern with substantialism and hylomorphism is that they take the finished individual form

as their unit of analysis and then look to the past to describe the nature of its reality ([Mills, 2016](#); [Scott, 2014](#)). For Simondon, this is a mistake, and instead the individual needs to be considered in terms of the conditions of its genesis in a nondeterminist way. For Simondon, the error that substantialism and hylomorphism make is that they *start* with the *result*, that is, the individual rather than individuation.

Individuation is the conceptual starting point for understanding Simondon's ontogenesis. If we cannot rely on the finished form to, in and of itself, define how life operates, then we need ways to understand how individual forms emerge and operate. Furthermore, this needs to be done without recourse to essentialist or determinist thinking (i.e., substantialism, hylomorphism). Individuals operate through processes of individuation—these concepts cannot be thought of as distinct as they are ontogenetically connected. Individuals emerge and operate as part of a broader set of forces. [Simondon \(1964/1983/2020\)](#) states that “individuation is an event and an operation within a reality that is richer than the individual that results from it” (p. 53). The analytic unit expands beyond the *finished form* (e.g., a human body) to consider the system constituting the individual and the wider reality that it operates in concert with. As Simondon notes, “individuation is not of a substance, it is of a system—individual and milieu” (p. 93). The milieu is the “reality that is richer than the individual”—and exists in parallel with individual forms. One cannot be thought without the other. As will be discussed in the second half of the paper, this has implications for how we think about emotion and digital life, namely that it is necessary to consider how they operate in terms of systems of individuation—individual *and* milieu. In recent years, one can argue that the “reality that is richer than the individual resulting from it” increasingly involves the presence and activity of digital media and associated data practices. There is a vast range of digital activity generated from people's use and interaction with digital technologies and media. For instance, GPS mobile phone location data, IP addresses, internet searches, social media, health records, mood trackers, emotion-tracking apps, music streaming, television streaming, smart home technology, retailer loyalty schemes, insurance, and advertising. These are just some of the ways that digital records of individual activity can be generated, and which can then aggregate into algorithms used by the government, industry, and commercial organisations, whose operation generates and uses algorithms. All these activities involve a *digital* dimension, and therefore constitute contemporary digital life. As such, systems of individuation can be seen to be laden with forms of digitisation.

Perception and affectivity

The fact that the analytic starting point shifts from individual to the system of individuation (individual *and* milieu) means that relationality operates as a central pillar of Simondon's ontogenesis. Simondon uses the example of crystallisation, in which a crystal emerges from a supersaturated amorphous solution—initially as a germ and then through an ongoing process of structuration of new layers in the system. The crystal grows/individuates through a process of amplification, which operates through an “amplifying reticular structure” ([Simondon, 1964/1983/2020](#), p. 13). The system-level unit of analysis is the *milieu*, which, put simply, captures the body–environment relations that constitute individuations. The constituent elements are heterogeneous, meaning that their relational operation involves a tension of the coming together of different modes of being. In the example of crystallisation, the crystal is one possible resolution of the tension of the supersaturated amorphous liquid system. This is not to suggest that the milieu somehow preexists the individual, because they are simultaneous dimensions of reality, individual–milieu, that operate as attempts to resolve the tensions of systems of metastability.

As there is no individual that precedes a relational system constituted by individual and milieu—the operation of psychic individuation needs to be considered in terms of attempts to resolve the inherent tension of the individual–milieu system. Resolutions are acts, as [Simondon \(1964/1983/2020\)](#) notes, “the individual is not a being but an act” (p. 209). For Simondon, psychic resolution operates through perception, which is important because it captures and addresses the process in and through which the living individual orients to the world (the milieu part of the individual–milieu system). Tension is the material content for perception, which is a psychological condition activated by the need to deal with tensions between bodies and environments. [Simondon \(1964/1983/2020\)](#) notes that “it is only after perception that tensions are effectively incorporated into the psychological field and become part of its structure” (p. 259). These tensions are not purely behavioural but exist as a “deeper” structural tension between two distinct modes of existing in the world (this is one reason why Simondon does not subscribe to Spinoza's substantialist monism; [Scott, 2014](#)). Such tensions are not purely psychological, for example, they are not existential concerns about the status of being, they are heterogeneous dimensions of culture and society whose coming together requires perception (on the side of the psychological) to persist as a phased being. Perception is an act of psychic individuation, part of the amplification “that the subject

operates according to its relation to the world” ([Simondon, 1964/1983/2020](#), p. 23). The notion of amplification is part of Simondon’s concept of information, which operates as part of the *autonomous zone*, which is “the zone in which information has the time to propagate in a centripetal direction and then in a centrifugal direction” (p. 212)—information is the act of individuation that operates as the individual–milieu system.

Perception is not the sole psychological dimension working to structure the temporal persistence of the individual. Affectivity emerges as part of the specific relation the individual has with itself as subject (the centrifugal part of the individual–milieu system). This is not solely an internalised relation, something operating within the individual in isolation from the collective/environment, because the individual’s relation with itself only exists in its relationship with the subject’s relationship with the collective. One does not exist, or cannot be thought, in isolation from the other. Simondon introduces the notion of *metastability* to define the operation of individuation—it is *meta* because the operation of its constituent parts cannot be wholly understood or reduced to the parts as individuals, but rather as always-already operating as a part of a richer system of individuation. While perception acts to resolve the tension between the body and environment, affectivity is the “deeper” relation of individuation and preindividuation. The tension that affectivity exists to resolve is “closer” to the individual as “subject being.” It is a tension and incompatibility—“the subject is individual and other than individual; it is incompatible with itself” ([Simondon, 1964/1983/2020](#), p. 280). This incompatibility stems from the primacy that relationality has, and that it is constituted as dimensions that are heterogenous—they do not operate as pre-existing substances with prefigured ways of connecting and interacting.

Affectivity and perception are required due to the way that sensation makes the world “present” to the body as it connects body and environment—which necessitates perception and affectivity to attempt to resolve the incompatibilities created by connecting body and environment. The main reason for incompatibilities is the different “modes” of the living being and that of the world. These distinct modes cannot just be slotted together into a functioning coherent whole/form (this is one of the reasons Simondon does not agree with the “field theory” of Gestalt psychology because its unit of analysis is the notion of a complete “finished” individual).

Simondon’s ontogenesis develops a unique take on the individual–collective relationship, which is central to the operation of individuation. If they do not operate as predetermined

substances or forms, then it is not appropriate to consider their relationship as *interindividual*, namely communication and connections between what Simondon referred to as *good forms*. Instead, the collective (milieu) is considered to operate through a charge of potentialised energy that individuals carry with them, but that does not necessarily have to be actualised in or of them. The charge is one of preindividuation, the as yet not actualised energy of potential future individuations. The novelty of Simondon's thought here is that the collective is considered in terms of emerging from individuals, but not in terms of being dependent or reducible to the actions of actualised bodies. This is what [Simondon \(1964/1983/2020\)](#) captures when stating that the individual is a "carrier of virtualities" (p. 185). Simondon names this *transindividuation*, and it, in effect, defines the operation of the individual–milieu system.

Transindividuation

The notion of transindividuation is a central pillar of Simondon's thought and captures the relationship between the metastable individual and the world in which perception and affectivity operate to retain its consistency. To avoid falling into the trap of substantialism or reductionism, Simondon keeps the transformative potential of preindividuation "live" in the metastable system. This means that affectivity and perception need to remain "open" to preindividuation, while maintaining metastability. This operates as a relation between affectivity and perception—which takes the form of a mediation with the status of being—the domain of the collective. [Simondon \(1964/1983/2020\)](#) captures this as "the unity of the modification of the living being and the modification of the world depends on the collective, which brings about a convertibility of the orientation relative to the world into an integration into vital time" (p. 291). While perception and affectivity operate as metastable consistency, they do not contribute to the subject-being as a "good form."

[Simondon \(1964/1983/2020\)](#) defines transindividuation as "surpassing the individual" (p. 314), although not by being "exterior nor superior" (p. 314). Transindividuality is individuation operating "across" interiority and exteriority—and is continuous. It captures the plurality and continuity of individuation. The preindividual (undetermined) is an action potential that can "rise" toward the present within the subject, and which, in doing so, "incorporates the subject into the collective" ([Simondon, 1964/1983/2020](#), p. 278). To return to the earlier example of crystallisation, the crystal individuates through structuring movements of amplifying reticulation which do not consist of "interior" and "exterior"

elements in dialogue, but rather as relations that transcend notions of internality and externality. The concept acts to unify psychic and collective individuation, defining a singular individuation, albeit with two reciprocal dimensions, one that “interiorises exteriority” and one that “exteriorises interiority.” These are relations, not substances, and operate as a transindividual systematic unity of psychic and collective, or what Simondon sometimes calls the “psychosocial” ([Combes, 2012](#)).

The process of transindividuation can be thought of as paradoxical—this is because to “discover” and/or “encounter” transindividuation, to understand the collective that is part of oneself, one needs to undergo solitude. This is not a notion of solitude as a discrete individual experience; a momentary or short-term feeling. Rather, transindividuation can only be engaged with through solitude acting as a “milieu through which to pass” ([Combes, 2012](#), p. 38), akin to the supersaturated amorphous solution through which the crystal emerges. Hence, it can be thought of as an ordeal—because it is not a simple short-term emotional episode, but rather a process in which one’s relational self is interrogated, exposed, and reconfigured. This process involves a disconnection from the collective—in the form of encountering a new relation through exposing existing relations to the collective and disconnecting. Simondon uses the example of Nietzsche’s Zarathustra with the tightrope walker. This is a process for Zarathustra, who finds the tightrope walker, postfall, in isolation and disconnected from his identity as “tightrope walker” with the crowd (collective). Zarathustra sees the solitariness of the tightrope walker as he carries him away, and, in doing so, encounters transindividuation. This leads him to seek his own solitude in the mountainside cave. The process of solitude becoming a milieu for Zarathustra only arose through the “exceptional event” of the tightrope walker falling. [Combes \(2012\)](#) neatly captures the relation of individuation, preindividuation, and transindividuation in the following quote:

the aptitude for the collective, that is, the presence of the collective within the subject in the form of unstructured preindividual potential, constitutes a condition for the relation of the subject to itself. (p. 39)

Transindividuation defines the antirealist philosophy of individuation. Simondon sees the consistency of the psychic subject coming from “what surpasses it while accompanying it” ([Combes, 2012](#), p. 40), namely the charge of potentialised energy. The key issue to remember here is that, while we come to experience ourselves as psychological individuals, and a huge amount of social and cultural life is premised on the idea of societies of discrete

individuals, for Simondon, *psychic life* should not be defined as the interior life of an individual ([Scott, 2014](#)). This is a categorical error and, if adopted, anything that follows will be a misunderstanding and misrepresentation. For Simondon, psychic life is not a life lived internally but is something that operates along dimensions that are simultaneously “interior” and “exterior.” This means that psychic life is not self-sufficient, it cannot operate, be maintained, and continue to exist solely *intraindividually*. Instead, it exists psychically as a relational being that must operate in and through orientations with itself as an individual and as part of a collective (milieu). Furthermore, transindividuation points to this reality in terms of being “a dimension in excess relative to the individual” ([Simondon, 1964/1983/2020](#), p. 314). The “problem” of psychological life cannot be “solved” by reference only to the interior of the individual, because it does not exist solely as a being of interiority. This is the tension between the perceptive and affective problematics. Key here is “an understanding of the subject wherein relation to the outside is not something coming to an already constituted subject from without, but something without which the subject would not be able to be constituted” ([Combes, 2012](#), p. 31). Two points are essential for understanding individuation. First, that the subject never reaches a stage of being a “finished” individual—to whom the external world acts upon. Second, “outside” is only outside of what is perceived to be a discrete individual and is one dimension of a singular process of individuation. This manifests as the “affective problem,” namely the tension of feeling oneself to being “more than” an individual—and as such not being able to resolve all of one’s concerns “internally.” To be part collective involves reconfiguring one’s sense of self in terms of realising that to be an individual is to be a multiplicity—as being partially constituted by a dimension (collectivity) that the subject “feels quite justifiably as exterior to itself as individual” ([Combes, 2012](#), p. 31).

Affectivity and emotion

This section turns to the role of affectivity and emotion in the operation of psychic individuation. As [Simondon \(1964/1983/2020\)](#) notes, “an analysis of what can be called psychical individuality should therefore be centred on affectivity and emotivity” (p. 274). The individuated reality of the subject-being as simultaneously singular and collective operates as a tension, which affectivity is an “action-response” to. Moreover, actions operate as “exchanges” “between the pre-individual and the individuated within the subject-being” (p. 278). Affectivity operates as exchanges between what remains undetermined (preindividual)

and what manifests in the present. In a sense, affectivity is ontogenetically *prior* to emotion, although not in terms of being essentially *distinct* but rather as operating at the other end of a continuum. Affectivity operates primarily as part of the relationality of preindividuation. Emotion is that which modulates affectivity through its phased-being in the constitution of the individuated reality of a subject being. Affectivity and emotion are not considered to preexist relationality—instead they are “constituted in the course of the relation but not pre-existing the relational act” ([Venn, 2010](#), p. 151). Hence the focus on affect and emotion existing and operating relationally—and on a continuum.

Simondon frames emotion as “socialised affect”—because it constitutes the relation a subject has to itself and to others and operates as part of the constitution of psychic individuation. Affectivity cannot be the mediator and mediated—it needs emotion to act as the latter. Emotion operates as an attempt to resolve the tension that is the “affective problem”—namely the initial and persistent incompatibility of the preindividual and individual that operates as the subject–milieu system. Emotion’s operation as part of the individuating resolution of tension between individual and collective means that it can be thought of as a form of signification. What it signifies is the carrying of a preindividual charge of potential energy—something “more than individual” that cannot be wholly resolved intraindividually. Emotion signifies the need for action in the form of resolution—which itself requires the individual to persist in its active attempts to operate as an individual whose presence and activity always involves bringing something of the collective with it.

Affectivity and emotion form a conceptual couplet—both are necessary to address the affective problem. Fundamental to the operation of affectivity and emotion is the problem of the subject seeking an “internal solution” to the tension between preindividuation and individuation. Its first thought is “how do I, as subject-being, address this incompatibility?” However, the subject cannot resolve the tension itself, it requires the collective in the form of preindividuation—it needs the very thing that creates the tension in the first instance. As such, affectivity and emotivity “constitute the resonance of the being with respect to itself and connect the individuated being back to the pre-individual reality that is associated with it” ([Simondon, 1964/1983/2020](#), p. 11).

The phased relationality of the subject being through affectivity though does not address the plurality of potential relations in each moment, namely why *this* subject-being at *this* time—and not another realisation of the potential that exists as preindividuation? Emotion

constitutes a unifying of the subject-being against a backdrop of a plurality of potentials. It relates to the “interior universe,” while perception relates to the “exterior universe.” This does not, though, mean that emotion should be considered as a selective actualisation of affect—as a partial realisation of a greater affective realm of potential—which is a principle of many theories in affect studies ([Clough, 2007](#); [Massumi, 2002](#); [Tucker, 2011](#)). For [Simondon \(1964/1983/2020\)](#), emotion is “richer than affection” (p. 289)—with the richness coming from the prominence of the role emotion plays in the operation of the subject-being in terms of providing direction through taking up the affectivity in its specific psychic individuation. Emotion provides a defensible unity—it co-creates the individual and provides a persistence and coherence to its operation. It demands a unity of identity to endure through its phases of being. Affection is more general and lacks the consistency in terms of the lived being that emotion provides. Emotion is “stronger” in terms of consistency than affection, with the latter able to be distracted and redirected by other affections. It does not have, nor does it fulfil, the responsibility to the subject-being that emotion has. This responsibility requires a strength and richness that exceeds that of affection. To state that emotion is a partial/selective/derivative form of affection is to simplify and misrepresent the significance, scope, and scale of the job that emotion does in terms of “holding” the subject-being “together.” The importance of the role of emotion is made clear by Simondon—and is a key distinction between his theory and others that have raised affect to an ontological pedestal at the expense of emotion.

Emotion is then thought of as the “organisation of affections” ([Simondon, 1964/1983/2020](#), p. 290)—in terms of signifying the tension that it operates to resolve. The organising efforts of emotion act as movements of structuring the living individual: “what was tension and incompatibility becomes functioning structure, fixed and fruitless tension becomes an organisation of functioning; instability is transformed into an organised metastability that is perpetuated and stabilised in its capacity to change” ([Simondon, 1964/1983/2020](#), p. 291). Furthermore, the transformation of tension and instability occurs as part of the operation of individualisation—a continuous process that provides consistency to the living individual. This, though, is not to suggest that individualisation leads to finished forms. To be completed would be to stop existing, because without the milieu with which it continuously interacts, it would lose the action potentials that act as the “power to continue individualising” ([Simondon, 1964/1983/2020](#), p. 292). The human living individual is “neither pure

individuation not pure individualisation, but a mixture of the two” ([Simondon, 1964/1983/2020](#), p. 294).

Simondon offers a conceptually rich account of psychological life in relation to emotion, which will inform the analysis of emotion and digital life in the next section. Key here is recognising that digital practices have come to increasingly feature in the operation of individuation—as they constitute large parts of the relations we have with ourselves (as subject) and others (as collective)—rendering them in direct dialogue with emotion and affectivity.

Emotion and digital life

This section focuses on emotion and digital life, with specific focus on the intersections of emotion and digital practices. A large part of contemporary moves in relation to digital life and emotion are in the area of the use of machine learning/artificial intelligence (AI) in technologies that claim to be able to “read” emotion through physiological expressions. These include analysing a range of physiological expressions, such as facial “micro” expressions, speech, skin conductance, heart rate—and in a range of areas, including health and commerce ([Fabiano & Canavan, 2019](#); [Picard et al., 2001](#)). A large proportion of so-called “emotional-AI” is developed by industry, and with commercial interests ([McStay, 2018](#)). Summaries of the emotional-AI field exist elsewhere ([Ellis & Tucker, 2020](#); [McStay, 2018](#)). There are two issues here that I argue misconceptualise and, consequently, downplay the role (and importance) of emotion in psychological life. First, the model of emotion propagated by the idea that the predominant mode of being of emotion is through physiological expression. As has been argued elsewhere, this relies on the “basic emotion” model, the critique of which is well established ([Barrett, 2018](#); [Bassett, 2019](#); [Ellis & Tucker, 2020](#)), namely that the model fails to sufficiently address the multiple ways that sociocultural context shapes emotion-related physiological activity, and furthermore, that expressions do not always provide direct access to “authentic” emotional activity, but are only one layer of a more complex operation of emotion. For instance, just because someone is smiling does not mean that they are feeling happy. Emotion-focused, AI-based technologies are at the forefront of new usages of AI, but they are lagging far behind in terms of the models of emotion that they rely upon ([Ellis & Tucker, 2020](#)).

In Simondonian terms, the emergent power of emotion-AI technologies is not in their being expert in interpreting emotion in increasingly sophisticated ways, but in becoming more present in the psychic and collective individuations that constitute everyday life. They have an emotional impact on life, but not in terms of the way they are designed and used. Consequently, they will come to be part of that which *exceeds* individual life in the systems of individual-milieu that constitute psychological life. Forms of digitisation act as parts of the *tension* that new emotional (and perceptual) responses seek to resolve in enacting the consistency of the subject. Consequently, it is not the case that emotions are “taken” from individuals by AI-based algorithms, as the inverse is the case—namely, that new emotional responses are drawn out as attempts to resolve the tensions of AI-infused individuations. The key offer of Simondon’s ontogenesis here is the idea that emotion does not reside within an individual in forms that can be readily identified and interpreted by algorithms. Instead, algorithms can be viewed as part of technicity, which intersects with and realises aspects of preindividual action potential in the creation of new tension-demands on emotion. Consequently, to understand emotional-AI as enabling the capacity to learn individuals’ emotion is to misunderstand how emotional life operates. Yes, emotional-AI can intersect and affect emotion, but through requiring new emotional attempts to modulate changing relations between preindividual potential and individual life. To focus only on developments such as emotional-AI when analysing contemporary relations between emotion and data is to miss a range of broader questions and issues for the social scientific understanding of emotion and digitisation. This primarily relates to the conceptual mistake emotional-AI makes in considering emotion a property of individuals, rather than as an active operation of communication between a preindividuality and individuality—which acts to extend the consistency of the latter, not as an isolated individual but as a couplet of psychic *and* collective individuation. Furthermore, digital approaches, such as emotional-AI and broader algorithmic practices, do not address the layer of affective preindividuation, and consequently miss the broader operation of the affective–emotion continuum through which emotion life persists. They do not capture the reality that individuals are always operating in concert with an energy that exceeds them—they are not isolated individuals with discrete modes of being that can be captured and interpreted through data and algorithms.

Simondon’s thinking encourages us to think far more broadly about emotion and the operation of individuation. Individuals exist in concert with an ever-expanding set of digital practices, with data that are not only generated from individual activity, such as web

browsing, social media activity, online shopping, but also by the aggregation of that data (so-called “Big Data”). Aggregated data also includes metadata, namely that generated by computational devices, such as IP addresses and GPS data. This metadata is associated with the data generated by individual users—effectively making it data *about* data. People may not be aware of all this activity, as things such as GPS location data and IP addresses can be collected without individuals’ awareness. Much of this activity now operates through the aggregation of data into algorithms. Conceptual attempts have emerged to try to capture this broader sense of the relationships between bodies and data. For instance, in surveillance studies, concepts such as *data double* define the reality of a parallel stream of data being generated by the movement of our bodies through everyday life ([Hedenus & Backman, 2017](#); [Lyon, 2007](#)). The argument being that bodies no longer exist in isolation but are continuously interacting with technologies that generate data from daily activities. The data double concept draws attention to the significant increase in data generation from all areas of our lives in recent times. However, it frames this almost in mirror form, namely that an individual has a *flesh and blood* body, and a *data double* that can be mapped onto the activities of the other—and a notion of the *finished body* is taken as the analytic unit from which data is generated. The concept of individuation offers a different understanding, as its ontogenesis does not start with the finished body, from which a data double is generated, but instead asks what systems of individual–milieu operate to produce individuations that are always-already singular manifestations of body *and* data (in the form of the collective). Emotion operates here as part of the emergence of the psychic to resolve what becomes the tension between body (individual) and milieu (data). In stark contrast to the aforementioned emotion-focused AI, such as in relation to emotion and learning in education settings, emotion plays a more significant role in the operation of *psychic individuation*. Not, though, in the form of the feelings of a finished individual, but rather in the psychic operation of individuation of the body–milieu couplet. As such, the reductionist and individualistic approach ignores the preindividuating operation of affectivity. That element of the affectivity–emotion continuum is lost, which renders the analysis narrow and insufficient. The operation of emotion as the sign that an attempted resolution is needed is missing from approaches that consider data as mirroring the movement of “flesh and blood” bodies.

Instead, we can think of emotion operating as part of the *structuring movement* of individuation that enacts a consistency of a subject—meaning that it operates “across” psychic and collective individuation. In terms of algorithms, this approach defines the

emotional relationship between individual and algorithms as one of individuation—emotion is part of the operation of individuation that involves an algorithmic dimension. Algorithms do not “read” emotions “in” people, but rather operate as part of the ongoing emotional constitution of the individual. Emotion assimilates the impacts of algorithms in terms of the potential action of individuation—that which exceeds but is carried by the subject in its ongoing process of being constituted as an individual. Emotion is not solely a response, for example, annoyance, anger, happiness, indifference, to registering an instance of algorithms encroaching on psychological life. Emotion operates as a more significant part of relating to oneself as subject, but one in constant connection with something “outside” of itself, for example, algorithms. Emotion is the operation of affectivity in the persistence of an individual living being that is in constant contact with the realm of preindividuation external to its individuation. To use Simondon’s example of clay taking form through the mould, which acts to “halt its expansive potential” in the form-taking of the brick. Emotion can be thought to halt the expansive potential form of affectivity in the form of psychological individuation. This is because “individuation is an event and an operation within a reality that is richer than the individual that results from it” ([Simondon, 1964/1983/2020](#), p. 53).

This approach to emotion helps to shift the debate regarding the increased power and agency of digital activity such as algorithms. Conceptualising emotion as being faced with algorithmic practices as part of the relations individuals must resolve with themselves (psychic) and others (collective) facilitates the development of a model of the subject that accounts for the significant role of digitisation, but without rendering psychological concepts such as emotion less important or relevant. Data and algorithms have not necessarily become more powerful or significant than emotion, despite new developments such as AI-based emotion-related technologies. These are not solely activations of specific emotional categories (e.g., fear, anger, suspicion, trust) but rather a more fundamental part of our psychological existence. They become cultural objects that constitute dimensions of the individual–milieu systems through which psychological life operates. They are not merely instrumental, in terms of collecting and processing data, but become agents of potentialised energy. They operate as part of that which exceeds us, and part of our relationships with ourselves.

The fact that algorithmic activity is not always apparent to us means that algorithms can be thought to operate initially through an affective realm of action potential that is modulated by

emotion in the process of psychic individuation. Within this process, the scope exists for what we consider to be specific emotional responses, such as suspicion, fear, satisfaction, and so forth. These, though, are not innate, categorised emotional responses triggered by environmental stimuli. Instead, they are processes of structuring modulation that operate with and through affectivity, and in such ways that are never disconnected from the affective “side” of collective individuation—all as part of the preindividuation that surpasses and is carried by individual life. The uniqueness of Simondon’s model of individuation, and emotion therein, is not captured by digital approaches that rely on a notion of categorising and processing data about discrete “finished” individuals. Instead, we need to think about the role of digitisation in the genesis and operation of psychic and collective individuation—which is a singular process.

It is the aggregated form that algorithms take that facilitates future individuations. The potential for new individuations is made possible by the aggregation of new data that transform into novel algorithms that contribute to the operation of new psychic and collective individuations. The novelty of the concept of individuation is that the future “exists” in unpredictable ways. It could be argued that this is different from the role of the future in relation to algorithms, as they create novelty through new connections with existing data. A sense of the nonactualised of preindividuation is not present in the same way in relation to algorithms. The relationship between present and future is inverted. For Simondon, it is the preindividual phase that is never captured nor realised in its fullness in individuated realities that is the phase in and through which future novel individuations will emerge. With algorithms, novelty operates through a different temporality/phase that follows the individuation phase. Novelty with data transforms through the novel aggregation of existing individuated data–body realities—with the scale of aggregation—the sheer quantity of data that can be generated creating huge potential for novelty and transformation. Algorithms seek to innovate through scale—through aggregating such high quantities of data that signify potential for the genesis of novel future individuations. For Simondon, novelty depends on the preindividual phase—that is only ever partially realised through the relational operation of individuated realities.

Towards a psychology of emotional–digital futures

We face daily predictions of future dominance of digitisation, for example, algorithmic-led futures, in which all aspects of everyday life are imbued with algorithmic activity interacting

with and shaping our emotional lives. The argument goes that algorithms will emerge that can interpret and predict our emotional habits and beyond. In this paper, I have sought to problematise this idea through drawing on Simondonian theory to argue that emotion is a more fundamental part of the operation of human life. Yes, emotions operate at the level of culturally defined categories of physiological activity that can be partially interpreted by algorithms, but they (in concert with affectivity) operate as broader relations of exchange that constitute our persistence as psychological subjects in environments of continuity. This helps to achieve one of Simondon's key aims "to be done with the notion of a human essence as well as the pervasive understanding that technology is purely instrumental and not a true part of culture" ([Mills, 2016](#), p. 3).

Furthermore, neither algorithms nor emotion are understood as operating in relation to clearly defined and stable "individuals." Consequently, to claim that data "about" emotion can be captured and interpreted is to significantly simplify processes that are more significant in the ongoing individuations that operate as consistent psychological beings. Algorithms can operate as semi-autonomous aggregations; intersecting with emotional and affective forces in the continuous phases of individualised life. In this model, data are not solely "signals of transmission," but become part of relations that a subject has with themselves (psychic) and the environment (milieu/collective)—which require emotional solutions to maintain the consistency of the lived being. This is the transductive element of Simondon's philosophy, which names the operation of signal transmission in and through the individual–milieu system, but not in terms of being merely conduits for information in a traditional sense. Instead, "transduction is what allows for signals of information to pass, but this passage, instead of being a simple conveyance of information, is integration or differentiation" ([Simondon, 1964/1983/2020](#), p. 171). Furthermore, the reality of transduction as the operation of integrating the differentiation of previously heterogeneous elements involves a polarity, which Simondon names an *affective polarity*. To understand and define relations between algorithms and emotion, an approach is required in which relation takes the "status of being." This contributes to the emergence of alternative models that do not fall into the determinist traps of research and literature regarding new technologies built on basic emotion models. There is far more at play emotionally than psychophysiological expressions.

As [Simondon \(1964/1983/2020\)](#) notes, "an analysis of what can be called psychical individuality should therefore be centred on affectivity and emotivity" (p. 274). But the scope

for understanding, and the significance of their role in the operation of psychological individuality, is far greater than suggested by approaches that focus on emotion at a level of mapping psycho-physical patterns of activity to culturally determined categories of feeling. Approaches that conceptualise digital activity more broadly in terms of concepts such as data double also limit understanding by relying on the notion of individuals as finished forms, instead of focused on the system of individual–milieu as the unit of analysis. To understand and define the impact of digitisation on psychological life, an approach is needed that significantly expands the unit of conceptual analysis in relation to emotion.

The take-home message of Simondon’s philosophy is that psychological individuals are never whole. Emotion is a way of persisting in relational terms—to exist with some sense of consistency. But this needs to be continuously enacted and performed—and always as part of a system of individual–milieu that is richer than individual life. The individual is a relational set of actions and processes. Simondon is valuable because not only does he offer a sophisticated account of ontogenesis—his writing also allows us to consider the role of digitisation in processes of enacting psychological individuals. In a similar fashion to emotion, digital activity such as algorithms are not personal and constitutive of a defined “whole/complete” individual, they are one dimension of relations that exist as tensions in need of resolving. This defines the problem of the psychological self in digitally mediated environments and reconfigures current thinking about data as personal, individual, and “owned” by a discrete body. Algorithms can relate to individuals, but they also play a significant role in the enactive practices of psychologising. This move is likely to continue, meaning that new emotional “resolutions” will be needed to maintain consistent (psychological) individuals in our increasingly algorithm-rich social worlds.

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