

INDIVIDUATION IN RECOMMENDER SYSTEMS:  
UNDERSTANDING ALGORITHMIC SOCIAL MEDIA FEEDS  
THROUGH GILBERT SIMONDON'S PHILOSOPHY OF  
TECHNOLOGY AND THEORY OF INDIVIDUATION

by

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through Gilbert Simondon's Philosophy of Technology and Theory of Individuation

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In this paper, I argue that Gilbert Simondon's philosophy of technology and theory of individuation provide a refreshing lens through which we can understand our online existence, especially concerning personalized social media algorithms (recommender systems). Simondon's theory of individuation, the technical object, psychic individuation, and the transindividual offer illuminating frameworks of analysis of the increasing datafication of technological experience. My paper will be a study of Simondon's philosophy, with a focus on algorithmic recommender systems, primarily TikTok's For You Page. I will explore Simondon's ideas and ultimately argue that recommender systems achieve near-total concretization in that they integrate three of the four phases of psychic individuation. I argue that the transindividual is what the algorithms lack in their integration of the vital individual (living being/ human). Therein lies potential for new avenues of understanding recommender systems as a technology. In this understanding, we reduce cultural alienation from technology in general and are able to make sense of our increasingly online world.

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## Prologue

The following is a short personal, phenomenological reflection on my experience as a user of social media algorithmic recommender systems. It was written at the beginning of my research, and I think offers valuable insight to the problem that I wanted to explore.

Note: If this were merely a philosophy paper, I think I would omit this section. But, since this is my Honors Thesis, I decided to take a bit more creative liberty.

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*When I am online, my body is typically sitting or prone. My hands hold a rectangular prism of aluminum, glass, titanium, and other rare earth elements. This technical object sits between my fingers and illuminates thousands of LED pixels. By way of mutual capacitance, a circuitry that requires two distinct layers of material, I am able to use my thumb or my index finger to traverse the online world.*

*When I am online, I am consumed by my online experience. What is colloquially known as the real world (that which is present to me at that very moment beyond the screen), ceases to exist. Instead, I, as a user, exist primarily as a spectator of a vast network of representations of bodies, histories, and sensations. I choose when other users see me; my presence is felt only minimally by them; I am a view, maybe a like, maybe a follower, and even then, my profile can be as anonymous as I'd like. In this new mode of existence, as a user, as someone online, I am ecstatic, my opportunities for communication are endless, my appetite for information, continually satiated. It is a far cry from the mystery of my isolated being; the depth of the singularity of my experience is now of no concern, truth as a silence is foreign to me; I am in an ecstasy of stimulation, of crowdedness, I am connected to everything and everyone.*

*My algorithm (a recommender system; the For You Page / FYP, Reels, Shorts, etc.) is an orgiastic reflection of my technologically determined “self”. It is a self which has coindividuated through technological and personal development, it is me as I am as a reaction to what it gives me. To what extent do I maintain my subjectivity as a user of this personalized algorithm?*

*Together, my algorithm and I converse in whispers. I am often not conscious of these reflections; they reflect infinitely like a mirror to a mirror. I am both the emitter and receiver of information. We coevolve as one technological system. My algorithm uses me as long as I use it. My reaction, be it digital, facial, or otherwise, is processed by my algorithm. This algorithm then reflects me, or my information, and feeds me content, granules of the world around me. It portrays an image of reality that is never complete or intelligible. It projects before me a collective constitution of symbols. This collective, this personalized external world I view, would not be possible without my data. As I experience my algorithm, it experiences my experience.*

## Introduction

In this paper, I argue that Gilbert Simondon's philosophy of technology and theory of individuation provide a refreshing lens through which we can understand our online existence, especially concerning personalized social media algorithms (recommender systems). Simondon's theory of individuation<sup>1</sup>, the technical object<sup>2</sup>, psychic individuation<sup>3</sup>, and the transindividual<sup>4</sup> offer illuminating frameworks of analysis of the increasing datafication of technological experience. My paper will be a study of Simondon's philosophy, with a focus on algorithmic recommender systems, primarily TikTok's "For You Page". I will explore Simondon's ideas and ultimately argue that recommender systems achieve near-total concretization (integration) in that they integrate three of the four phases of psychic individuation. I argue that the transindividual is what the algorithms lack in their integration of the vital individual (living being/ human). Therein lies potential for new avenues of understanding recommender systems as a technology. In this understanding, we reduce cultural alienation from technology in general and can make sense of our increasingly online world.

My project, here, in exploring Simondon's philosophy considering algorithmic social media recommender systems, is first and foremost a personal one. I feel continually and exponentially alienated by and at the same time addicted to my algorithm. I think this experience is common among people my age. I argue that Simondon's philosophy of technology and theory

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<sup>1</sup> Simondon's theory of individuation is his framework of how individuals come into being. This theory prioritizes the *becoming* of an individual, rather than its *being*. I will expand further on this in Section 1.

<sup>2</sup> Simondon's understanding of machines and tools as they coevolve with humans. See Section 2 for further explanation of the technical object.

<sup>3</sup> Psychic individuation refers to individuation on the psychological level. It concerns the way individuals react with their society and collective. See Section 3.

<sup>4</sup> The transindividual emerges from Simondon's theory of psychic individuation. It describes the individual who interacts with others on a deeper, pre-individual level. I expand on this further in Section 3.



of individuation clarify the processes and effects of social media algorithms. Simondon's project did not align with the hasty reactions of some of his contemporaries, such as Heidegger, when it came to progress. Similarly, I do not see the dominance of the online world as cataclysmic. We, as living beings engaged with an advanced technology, one that requires our psychological complexities for its existence, may feel inclined to either reject or submit to this vast technology. What is really needed, however, is an honest account of this technology not as an instrument, but as a culturally reconstructive phenomenon that coevolves with humanity. Without this reflection, we risk alienating ourselves from technology. This reflection is humanistic, according to Simondon, because it maintains that technological progress is only inhuman if it misunderstands technological progress. The human is "always a work of progress in congress with technology" (Mills 2016: 3). I hope that my paper can be a contribution to this humanistic reinvention and can provide a new, reflective way of understanding social media algorithms and online experience in general.

My paper is divided into three sections. The first situates Simondon as a philosopher of technology and compares his theories to those of postwar cyberneticians such as Norbert Wiener. Cybernetics is helpful in connecting Simondon's theory of individuation and his philosophy of technology and also provides ample context for his thought. The second section discusses Simondon's philosophy of technology, namely his concept of the technical object and concretization. This section also investigates the specific processes of the algorithmic recommender system and situates it historically as a transformative technology. The final section turns to psychic individuation and recommender systems. It is in this final section that I elaborate my argument for Simondon's theory of individuation as explanatory for the way recommender systems function as technical objects.

## **Section 1: Situating Simondon**

### **Cybernetics, or “The End of Philosophy”**

To understand Simondon’s philosophy of technology, as well as his theory of individuation, it is imperative to understand the history and fundamental ideas of cybernetics. Emerging after the Second World War, cybernetics was an interdisciplinary intellectual movement that sought to understand the world in terms of systems composed of separate but interactive elements that produced feedback loops based on their disparate properties. Simondon’s philosophy emerged both as a continuation and a response to this school of thought (Mills 2016: 22). In this section of my paper, I will outline the history and philosophy of cybernetics, as well as how it relates to Simondon’s particular thought.

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Martin Heidegger, in his 1964 text “The End of Philosophy and the Task of Thinking,” claimed that philosophy had “entered its final stage”(Heidegger 2002: 55). This final stage, the culmination of the entirety of the Western philosophical tradition, was cybernetics. In the dominance of cybernetics, philosophy reaches a triumphant completion, achieving a “manipulable arrangement” of its “scientific-technological world and the social order proper to this world”(Heidegger 2002: 57). For Heidegger, by the 1960s, there is no longer a need for metaphysics, philosophical reflection is redundant, and the only direction that remains is the cybernetic one. What has taken the place of traditional philosophical thought is the empirical science of “all of what can become of the experiential object of technology for man, the technology by which he establishes himself in the world”(Heidegger 2002: 57). In other words, technology’s dominance requires the end of philosophy because culture, society, thought, etc had, by the 1960’s become thinkable primarily through the sciences. What came next, for

Heidegger, after this completion, was cybernetics. Heidegger describes cybernetics, within the context of his description of the “end of philosophy”, as a technological theory that “more definitely characterizes and regulates the appearance of the totality of the world and the position of man in it”(Heidegger 2002: 58). With cybernetics, we are more aptly suited to reflect on our world and ourselves *because* of the vast influence of the industrial and incoming post-industrial technologies. Six decades later, philosophy and critical thought in general are faced with the same task: learning how to understand a technological world, a world in which classical ontologies and epistemologies are, to a certain extent, unapplicable.

But “cybernetics” is not merely an epitaph for the death of philosophy. It was the beginning of a new study of thought, a study of the very principles of control, of systems. Years earlier, in 1948, American scientist and mathematician Norbert Wiener published his influential text “Cybernetics: or Control and Communication in the Animal and the Machine.” In it, he laid the foundations for a new axiomatic study that sought to understand the world in a new way. The book emerged from Wiener's work for the U.S. military as a researcher of anti-aircraft guns. Wiener was tasked with solving the problem of dissonance between the speed of the aircrafts and the aiming of the anti-aircraft gun. Gunners had trouble aiming at aircrafts moving at such high speeds. Where they aimed, then, depended on the speed and course of the plane. In order to better understand this problem, Wiener approached the gun and the gunner as a single system, a system that contained within itself informational feedback relevant for its goal, which was to destroy the enemy aircraft (Edgar 2009: 1). Viewing the aircraft as wholly external to the firing limited the relativity of the gunner to the aircraft. It ignored the relation between the two. Wiener’s shift in perspective led to the creation of a computing machine that achieved this goal through increasing the accuracy of prediction (Mills 2016: 20). He found this approach to be

useful not only in military engineering but for machine systems in general, and later in his career, developed a theory of information that reached beyond mere engineering and spoke to the nature of biological and social systems. If the goal of the anti-aircraft machine was to reduce inaccuracies in aiming, the goal of the living organism is to organize itself against entropy in nature. This is what sets cybernetics apart; it challenges the second law of thermodynamics; it shows how systems can regulate themselves into order, which was otherwise thought impossible. Emerging from these ideas was second-order cybernetics, which presupposes a purely shared identity between machines and organisms, and describes living organisms, the mind, and neurology as machine (Mills 2016: 22).

We see this second order of cybernetics in contemporary neuroscience. Cognition is commonly described as information processing. Debates of whether or not the brain is computable are prominent; “many scientists believe it is possible, in theory, for a computer to equal the brain given sufficient computer power and an understanding of how the brain works” Transhumanists fantasize about “uploading their consciousnesses” (Regalado 2024). Wiener’s cybernetics has indirectly inspired a culture which, amid increasing technological capacity, understands itself and its consciousness as mechanical. The cybernetic framework led to the inception of computer science, which is one of, if not the most dominant, domains of study in our contemporary world, and has brought about a computational perception of consciousness.

However, this second order of cybernetics was not the only path that emerged from the cyberneticians of the post-war industrial boom. Gilbert Simondon “strongly disputed” shared identity between living organisms and the machines (Mills 2016: 81). He was also critical of their understanding of *stable* individual receivers and emitters and argued that cybernetics as

presented by Wiener and his successors did not account for the “onto-genesis”<sup>5</sup> of the entities that comprised mechanistic systems in the first place.

How can we understand the negative entropy of a collection of entities into an ordered, self-regulating system if we do not first understand the genesis of these entities as elements? How did we get from cybernetics as rudimentary computerization to the vast systems of cybernetic networks of the 21st century? What is the connection between the aircraft gunner and the algorithm, as cybernetic systems? What is unique about recommender systems? In the next section, I will explain Simondon’s theory of individuation and how this theory is crucial for understanding his philosophy of technology as an offshoot of cybernetics. These ideas will offer a framework for understanding social media recommender systems.

### **Simondon’s Theory of Individuation**

While Wiener’s cybernetics brought an “end to philosophy” and established the framework for modern computational systems, it failed to account for the genesis of disparate elements of these systems as parts of a collective whole.

I want to use this subsection to briefly explain Simondon’s theory of individuation. Although a deeper dive into his theory will be taken later in my paper, especially as it pertains to psychosocial individuation concepts, it will be useful to provide some background knowledge on what exactly Simondon’s project was.

Simondon used a concept common in chemistry and physics to develop his theory of individuation: metastability. Metastability is a state where a system is in an unstable, yet persistent, equilibrium. It implies a movement towards a more stable state. Simondon used this

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<sup>5</sup> The term onto-genesis refers to the process of something coming into being.

perpetual metastable energy, this idea of a “pregnancy of form” (Simondon 2020: 691), to portray the being of an individual as an act, rather than a completed being. So, individuation is defined by its action, it is the progression of a thing into the future as it relates to its milieu, its composite elements. In a milieu, not all elements are fully formed. That's why individual needs *information* as its operation.

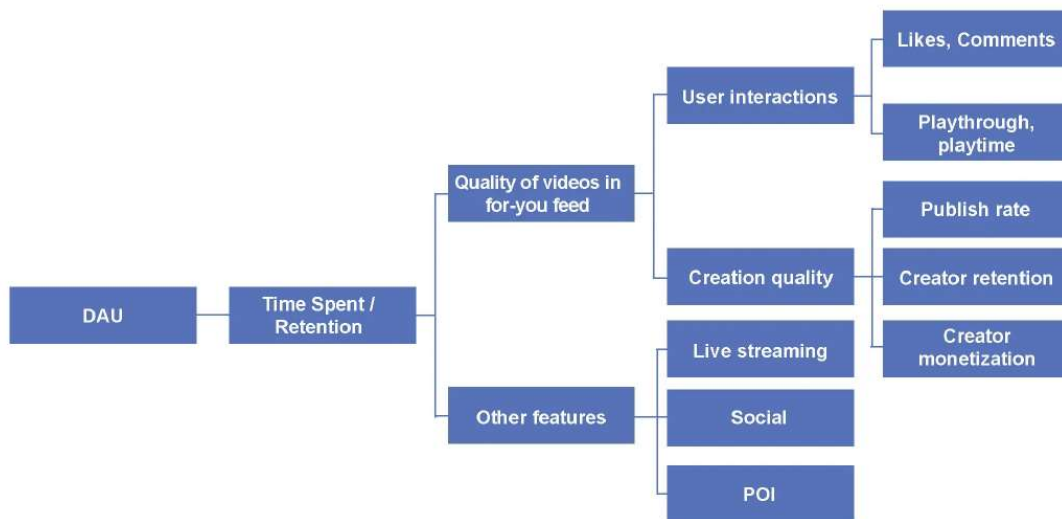
Simondon's notion of form relies neither on Plato's archetypal model, in which the physical world is an imitation of non-material forms from another realm, nor Aristotle's hylomorphic model, in which forms are merely varying representations of the same substance. Both of these models rely on the idea of a finished individual.

Simondon's theory is more concerned with the processes that produce individuals, rather than the quality of the individuals themselves. He is asking how it is that individuals come to be. For Simondon, the individual is continually individuating. It is never finished, because it contains within it tensions and potentialities that also continually shift and change. It undergoes transformations that inform it into the future.

## Section 2: Recommender Systems as Technical Objects

### The “For You Page”

My project revolves around recommender systems or “feeds” that rely on user data to produce an endless stream of personalized entertainment, news, and sociality. TikTok was the first social media platform to implement a “For You Page” (sometimes abbreviated as FYP), a specific type of consumption-based digital experience that has since been replicated by Instagram’s “Reels”, and YouTube’s “Shorts”. While standard social media usage has been based around the posts of users you follow (in the first years of social media these were typically people you knew personally), recommender systems such as the “FYP” are never-ending streams of short-form entertainment that rely on a top secret source code to provide users with highly personalized and addictive content. Factors such as your language preference, country setting, device type, videos you like or share, accounts you follow, comments you post, and time spent watching videos are weighed by the recommender system according to their value for each user. The company says their recommender system values precise data such as “whether a user finishes watching a longer video from beginning to end” (TikTok 2025). Videos are then ranked based on the calculated likelihood of a user’s interest. This means, when one uses the For You Page, there is a sort of backlog of ranked videos that shuffles constantly, based on a user’s engagement with each recommended video. TikTok’s ultimate goal, it explains, in an internal company document obtained by New York Times columnist Ben Smith, is to add and maintain daily active users (DAU). To do this, it focuses on optimizing the following two metrics: “‘retention’ – that is, whether a user comes back – and ‘time spent’ (Smith 2021: 2). Videos are given scores and then shown to users based on these scores.



A diagram of TikTok's recommender system.

TikTok's recommender system, then, has a teleological goal of engagement, of addiction. It is a system that thrives on its own growth and function. The more you use it, the better it functions. TikTok's algorithms are not algorithmic magic, despite common sentiment (some users claim their For You Page knew their sexuality better than they did). They are simple machine learning systems that run on a fantastic amount of data. They aggregate seemingly disparate elements (data) into one integrated, functioning system. This is what Simondon calls a highly "concretized technical object" (Simondon 1980: 31). I will explore this further in section 3.

What kind of state does this put a user in? They are a singular person, engaged in an intimate and fantastic cybernetic process. A machine feeds them content, they consume it, and this all happens at a high level of efficiency. A user emits feedback in the form of their data. They may send the content to a friend, they may like the video, or comment on it. They may



watch the video multiple times. They may reflect on the video; it might produce fear, or joy, or anxiety in the user. The user is involved in an interactive consumptive experience in which they do not merely receive information, but also emit it. This feedback loop is continuous, constant. The feed reflects the user, and the user reflects the feed. This results in a kind of digital infinity mirror. It results in a cybernetic system of a different order than those popularized by Wiener.

To truly understand algorithmic recommender systems, we have to move beyond cybernetics. There is more going on here than simple feedback loops between two components of a system. Where Simondon found cybernetics incomplete is exactly where recommender systems thrive. They depend on the notion of metastability, of potentiality. Emitter and receiver are not stable objects, interacting with each other, but rather coevolve and exist together in a state of metastability. They must interact as receivers and emitters that “are not defined in advance”(Tucker 2024: 286). I will expand on this in a later section.

Recommender systems are powerful yet simple technologies. They are significant because they have become dominant in the realm of communication and entertainment. I argue that these technologies are transformative in their influence. The sheer capabilities of recommender systems as an arbiter of one’s state of being are unlike anything we have seen before. Other technologies have surely transformed the way we exist, but the way in which recommender systems mirror our psychology is entirely unique. In the next section, I will explore various technical objects and explain Simondon’s notion of concretization as well as technical and abstract objects. These ideas will help show the significance of recommender systems, and the importance of understanding the ways in which transformative technologies affect us.

## Transformative Technologies

Of course, humans of the post-industrial world have been avid consumers of automated entertainment since the 1920s, when radio began to dominate media. This new technology collapses distance, allowing us to be connected beyond our physicality. Radio waves sent information from great distances, and we listened. Life became globalized, it became something expansive. Cable television similarly revolutionized culture; it provided an image for these far-traveling messages. But even before media as we know it changed our existence and our experience, other technologies have been shaping the way we live.

The first machine that transformed our civilization was the clock. In his book *Technics and Civilization*, Lewis Mumford outlines the conception and totalizing influence of the clock as a technology. Following the collapse of the Roman Empire, Pope Sabinianus sought to restore order within the walls of his monastery. Seven times a day, bells were rung, and they provided a kind of punctuation to daily life. Eventually, an instrument was created: a clock that ran, automated, according to water weight. This instrument spread outside the monastery and time, as a concept, was brought into existence. Before the clock, time was merely “duration”, a cumulation of the events of events of a life. This was an organic perception of time. The clock introduced time as measurable, as something that can be manipulated, controlled, and understood, rather than something tied to eternity. Today, one thinks of time as a “collection of hours minutes and seconds” and with this mechanized, scientific understanding, comes the introduction of “the habits of adding time and saving time” (Mumford 1934: 3).

Our world today, in 2025, would certainly collapse in the absence of the clock, in the absence of mechanized time. The clock drastically reconstructed human life. It was a technology that evolved humans and restructured our lives into quantifiable punctuations. It is now virtually

impossible to conceive of time without considering minutes and seconds. These units, as technology, define our lives in relation to time.

### **Concretization**

Mumford's clock illustrates the mutual-becoming of humanity and technology. It is not that we merely created this machine, but rather that this machine molded our experience of our life and our perception of one of the most fundamental realities of existence. Mumford shows that the clock is a technology that not only solved a problem (chaos in the monastery following the collapse of the Roman Empire), but also created a new environment.

Simondon identifies this phenomenon in his discussion of technical inventions. He terms this new environment, this changing of experience due to technological becoming, as an "associated milieu" (Mills 2016: 108). This milieu represents the relation between natural and technical elements. It is the "world", so to speak, that constitutes existence after the introduction of a technical invention. For us, our sense of time exists in an associated milieu defined by the clock, by minutes and seconds. The conditions put in place by the invention of the clock created the milieu from which the modern conception of time, the technological time, developed. In the same way we humans are shaped by our society, technical objects mutually evolve alongside the conditions of their associated milieu. The technical being is "conditioned in its operation" by means of both the technical and natural world.

We often conceive of the technical object as what Simondon calls "abstract object", an object that does not coevolve within its milieu, an object that contains multiple disparate functional elements that merely coexist rather than develop dynamically. For example, the Penny-Farthing bicycle was an abstract object. The front wheel functioned as a source of speed, while the back wheel was merely for balance. Here we see two separate elements of a technical

object. This object is abstract because the two elements function separately. They have not been integrated as one concretized system. Of course, modern bicycles still have disparate elements. But their technological becoming has been defined by their operational development, their movement from an abstract, immature collection of disparate systems, to a “plurifunctional-concrete system” (Mills 2016: 109). A technical object can also move from concretization to abstraction, again, when it forgets its utility and employs technological developments that begin to create more disparity between each functioning part of the system. Decorative spokes, for example, that perhaps display some kind of optical illusion as the wheels turn, deconcretize the technical object. More technical disparity is introduced; the object is now abstract, despite attempting to concretize.

A concrete technical object, then, is always in an operation of the development of concretization; this is its mode of individuation, of its onto-genesis, its coming into being as a technical object. It is in a state of development that unveils new “synergies, boundaries, and indetermination in its operation, which lead to the possibility for further invention” (Mills 2016: 108). A technical object becomes as it concretizes, it turns the virtual (that is, the ideal, the potential, the implicit possibility), into something established. A concretizing technological object reveals these in its development.

What function does the human have in this techno-genesis? We must turn now to Simondon’s “artificialization”. Simondon describes artificialization as the intervention of humans “in order to keep the object in existence by protecting it” (Simondon 1980: 46). Recommender systems are unique technologies because they depend on the affects and emotions of the living being. While other technologies are artificialized by their need of maintenance, algorithmic recommender systems are cybernetic systems that mechanize human emotion; their

very function is based on the realities of the living being (hereafter referred to as the vital individual). It is a system that manipulates the affects and emotions of vital individuals as data, and reflects the psychic and collective components of an individual's existence. In the next section, I will return to Simondon's theory of individuation. I will explore it further, discussing ideas such as affects, emotions, psychic individualization, and the transindividual. Each of these concepts will align in some way with the function of the recommender system. This will show not only the concretization of the recommender system as a technical object, but also its power and influence on the users who exist to some extent online, as data.

## **Section 3: Psychosocial Individuation in Recommender Systems**

### **Psychic Individuation**

Simondon prioritizes the genesis of individual beings, rather than their finished form. For Simondon, there is no stability for an individual, it continually develops as it organizes disparate elements of a system. Just as a technical object concretizes as it integrates separate functions into a dynamic system, continually individuating as a technological act, humans too exist in this state of metastability, in which they are never fully individuated but instead become, continually, according to the flooding of information into their pre-individual states.

Information, today, has a very brute, digital connotation. We understand information as a kind of form that transmits, that conveys something. In our digital connotation of information is the idea of a set of facts constituting a thing. It emerges from the Aristotelianhylomorphic model that worked towards a finished individual. Information, then, was that which moved something towards its form.

For Simondon, however, information is the operation of individualization. It does not have an end, but rather is a process of becoming that continues into the future. Within a system/milieu, there is a collection of disparate elements (as was explained earlier) that maintain an equilibrium, or metastability. This means that there is always the individual as an act, since an individual does not achieve stability. A milieu functions as a metastable element, something that has not yet been informed, that has not yet fully become; it is capable of transformation.

As individuals, we are never “complete”; we are metastable individuals that contain tensions within ourselves of information from the exterior world. We individuate according to the individuating information we encounter in our lives. We exist as an equilibrium between states of informed and not yet informed, as disparate tensions moving toward concretization. As

living organisms, we experience affects, which are “polarizations” that help us organize ourselves in relation to ourselves and our world (Mills 2016: 75). We respond to sensation and experience. In this sense, our world defines us. External and internal information resonates to constitute an individual.

Affects always challenge the unity of the organism; they continually disrupt and dispart any sense of stability with an object. Each moment I experience disrupts any sense of unity within my being. I actively respond to external information, and an affect occurs within me. So, as an individual consciousness, I contain within me many affects, which are resonances of external information that at once disrupt and constitute my individual being.

The way a living being understands a world and itself, then, is by using emotion to structure and process the multitude of affectations that constitute its ever-changing being. Emotions, then, are temporal ways of making sense of the world, of organizing our affectations into a kind of temporary system that we can understand. However, this system, of course, is always malleable; new affectations always have the potential to disrupt this closed illusion that we tend towards as an understanding of our relation to ourselves and the world. Someone who undergoes some kind of traumatic event may organize their experience into something that makes sense to them, that seems stable. However, this emotion, this structuring of disparate affectations, holds new tensions within itself. There is, within this emotional structuring, always a reserve of potential for change, a potential for new individuation, which is why it is a metastable state.

Our self as an individual, then, is never fully constituted. It is a field of becoming in which affects are regulated through emotion. The living being understands itself and its world by

regulating information; it individuates endlessly, not according to a form, but to the principle of individuation, which, for Simondon, is the basis of ontology; it is being itself.

However, something happens when these affectations reach beyond emotion. When the living being cannot account for the overflowing of affectivity in terms of its emotional regulation, a new resolution takes place. The living individual “requires a superior arrangement of vital functions.” This process is an expansion of individuation. It reaches beyond individuation, back to a pre-individual reality. (Mills 2016: 81). This can be understood as a kind of spiritual experience. It is what happens when the individual cannot contain what is trying to individuate itself through them. This process is called psychic individuation, or *individualization*.

Individualization, as opposed to individuation, reaches a new level of functioning. It is no longer constrained to the emotion as the regulation of affectation. Information through affects overtakes the living individual's ability to process such information and thus attains a new system, a new functioning system within and alongside the emotionally regulatory system. Individualization, for Simondon, is the development of a personality; it is the development of the “subject” that restructures the psyche in order to account for the unintelligibility of its relation to the world (Mills 2016: 82). It is very important that the individualized individual is shifting to a phase of the collective. The psychic, for Simondon, is inseparable from the collective because the collective, as culture, is comprised of the meanings of individuals.

“The psychological world should be named the transindividual universe rather than psychological world, because it has no independent existence; for example, culture is not a reality that exists for itself; it exists only in so far as monuments and cultural testimonies are reactualized by individuals and understood by them as carriers of meanings” (Simondon, 2020: 272).



To summarize, an organism is in-formed by the information it perceives through affects, which destabilize the equilibrium of the organism. The organism then coalesces these effects into a structure of organization. This structuring is what we call emotions, it is a regulation process that attempts to account for the destabilization of the individual in relation to its world. However, this process is often overwhelmed with an overflowing of affectivity, and must rearrange its structures according to a higher level of reality which is closer to the pre-individual reality (Simondon, 2020. 166). This is the psychic.

### **Algorithmic Individualization**

The process of psychic individuation is one that, in tandem with Simondon's philosophy of technology, illustrates the qualities of recommender systems. The For You Page and other algorithmic models use affects and emotions within their algorithmic processes to emit content that accurately engages the living being's attention. It is not that the algorithm perfectly represents the same allagmatics (theories of operation) of the living organism, but that it integrates these operations into itself as a concretized technical object. Our affects are organized into algorithmic systems that measure this data and, in turn, associate them with some kind of emotion. This categorization is not, of course, real emotion, but it is the structuring of the affects of the individual that situate it in the broader context of the vast array of data these algorithms use, which is the same function as emotion in the organism.

Data points of users, such as the ones TikTok uses, similarly individuate from the pre-individual. A user who has little data other than their location, for instance, who is using a day-old account, is fed merely an approximation of the most popular content of their location. From the user's interactions with this content, TikTok's recommender system individualizes a "unique and tailored feed" based on the singularity of this user. The first moments of the birth, so to

speaking, of the new user, involve an individuating process of data collection. The algorithm then refines the feed based on further user data over time, until the individual is a complex data conglomeration that can be predicted and influenced.

But the key here is that this data comes from the pre-individual. The algorithm has not yet individuated a user if they have no data on the user. So data functions as that which individuates from the pre-individual realm. You could even say that, in the context of recommender systems, the preindividual is the offline individual, the individual who has not yet provided data for the algorithm. This means that the raw data points function as immediate affectations in the same way that affectivity in vital individuation “comprises the relation between the individual being and pre-individual reality” (Simondon 202: 288). The affectation reconstitutes the being continually because it fine-tunes it into a more individuated (yet still metastable) being, just as algorithmic raw data disrupts the user's data profile while at the same time concretizing it into a system that incorporates each of its disparate elements.

Further, the categorization of such affectations, or immediate data points (such as time spent watching, likes, comments, etc.) are categorized subconsciously into structures of metadata that say something about what the user may then be interested in. This process is aligned with the phase of emotion, during which living beings organize that which disrupts their equilibrium into something intelligible, some kind of structuring that allows them to make sense of their world. If raw data is affect, then metadata is analogous to emotion. Metadata is data about data. It is a description of raw data that helps to organize and understand disparate nodes in an algorithmic system. Metadata can be thought of as a map with which we can understand data. We see these metadata, for example, in the options for a user to select a category that they are interested in

The next phase of vital individuation is individualization. The extent to which algorithms can process metadata into a subject-user, that is, something that can contend with others as a personality, is unclear. The individualized vital individual has “resolved” to some extent the overflowing of affectivity (Mills 2016: 82). This problem does not exist for the algorithm because the algorithm does not require conscious subjectivity. It is likely that the algorithm doesn’t have to account for this kind of higher systemic because the algorithm can function purely based on data and metadata. But, there are parallels to the element of culture within both the vital individual and the user. The vital individual develops its subjectivity “through the collective”(Mills 83). It confronts the excess of its collective when it observes the “normativity already elaborated by other individuals” (Simondon 2020: 272).

We may see evidence of the individualization of the user as a data subject when we observe the algorithm conduct something called “collaborative filtering”. Collaborative filtering is a recommendation that is given to a user based on a similarity between their data and other users' data. This is something that social media companies are generally less secretive about. On Instagram, for example, users may encounter content that displays who within the users following has “liked” the content. This shows an individualization process, but it relies on the pre-individual (the offline user) far more than raw data and metadata. Whether or not machine learning algorithms have sophisticated structures of collectivity based on individual subjects is unclear, according to the public documents.

This leads us to the final phase of the vital individual: the transindividual. It is here that we see a contention with the algorithm as a technical object. It is here that we can deduce some kind of separation from the algorithm as a dominating technology. While I am not arguing in one way or another in favor of the rebellion against or participation in recommender systems on

social media, I believe Simondon's theory of the transindividual offers a refuge from the feed as a seamlessly concretized technical object that can lead some users into spirals of addiction and manipulation. It can reduce the transformative effect that high usage of recommender systems has on users.

### **The Transindividual and Recommender Systems**

While the individualized individual has constituted itself as a personality within the context of the collective, the transindividual exists alongside it as a higher phase shift, which accounts for a more spiritual and pre-individual operation. The transindividual has to be thought of as an "accomplishment" that resolves a problem of anxiety.

The subject, as a psychic individual, attempts to subsume the entirety of its exterior. It looks to contain within its minimal capacities the whole of the collective. The inter-individual solves this problem by operating within its collective through societal norms and "functional relationships" (Simondon, 2020: 273). This allows the subject to maneuver through society without much trouble; it needs only simple reflexivity to make sense of other subjects, and does not need to penetrate deeper into their subjectivity. This is one response, one resolution, to the problem presented by the introduction of the overwhelming normativity of other subjects. It is likely the extent to which an algorithm can make sense of various users within its own data collection. The users in TikTok's algorithm do not interact, except by way of their similarity in metadata, meaning they do not come close to the pre-individual realm, but rather maneuver using operations of emotional regulation. The relationship between various users within an algorithmic system is functional. It is never on the level of actual embodied vital individual relations.

The transindividual, as opposed to the inter-individual, relates to the vital individual as "*exceeding the whole individual in prolonging it*"; the transindividual is not exterior to the

individual and yet is detached to a certain extent from the individual” (Simondon, 2020: 274). This means that the transindividual is comprised of that which it is not; it is extended to the exterior, to other subjects. This kind of solution does not rely on functionality, as the inter-individual does, but rather through “being through other beings.” This level of being, Simondon makes clear, is not the level traversed by inter-individual functionality, but is in fact closer to the pre-individual. Thus, the user goes beyond itself not as it encounters content that has been organized as shared metadata of other users, but rather back to its actual vital inception, or the moment it had no data to define it.

The pre-individual phase is spiritual; in the vital individual, it is nearly unintelligible. It is, as Simondon describes a “charge” and a “magic”. He describes the preindividual in his essay “The Genesis of Technicity” as the “unique, central, and original mode of being in the world” (Simondon 2020: 1). It is a primitive unity that includes at once the subjective and the objective prior to the split between the two. The pre-individual, then, is that which exists within the *living being*. Beings are connected not by their individuality but in their preindividuality. Beings still carry the potentialities of pre-individuation, and it is by this shared quality that beings can undertake the further individuation of transindividuation.

The user, on the other hand, experiences the collective as an interindividual. It engages with content on the feed that has been determined by a functionality. The recommender system as a technological object, works to the extent that it can account for much of the individuating processes that happen within the vital individual, but it cannot portray the charge of pre-individuality of interacting subjects because it is reduced to mere data and metadata. The transindividual cannot exist within the technical object of the recommender system because it requires a higher phase: the phase of transindividuation. However, with increasing usage of such

an impressively integrated technology, the overreliance on inter-individual reaction with the collective causes the user to forget its pre-individual state. This then reduces its subjectivity and aligns it further with the limited system of the algorithm.

## Conclusion

The recommender system, as evidenced in TikTok's For You Page, is a marvel of technical achievement. It is a technical object that has concretized, as a machine, by integrating the most immediate of human sensations. If we take Simondon's theory of individuation as it is, and understand that it offers an extension of cybernetics, we see that it provides a deeper understanding of the ways in which this dominant technology functions. It helps us to understand what role we play in what we interact with when we are online and provides a guide to making sense of the disorientation of a data-driven social experience.

In my paper, I hope to have offered some valuable new frameworks of thought that move beyond the limits of cybernetic thinking and allow us to be conscious users of social media and recommendation systems. Understanding our relationship to the technologies of our time is crucial to maintaining beneficial co-evolution with our technologies. As Simondon states, the individual is alienated by their misunderstanding or lack of reflexivity of the technologies that shape their lives. This alienation is something I have felt but never understood. In writing this thesis, I feel as though I have a better grasp of the importance of confronting this alienation, as well as the processes that define our contemporary existence as users.

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