Processed Information: A Definition

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The 2024 Philosophy of Education Society's call for proposals invited philosophers to think about information, misinformation, and disinformation. As the call differentiates, information implies communication of trust-worthy ideas, misinformation implies a communication of less than trust-worthy ideas, while disinformation implies communication that is intentionally deceptive.[1] These types of communication, though, are not necessarily useful for classifying things like ChatGPT or social media. A problem that putatively democratic societies like America have is that information is at risk of being what I call "processed information."

Processed information is not necessarily misinformation or disinformation. Instead, it is information that very well may be true but is so heavily handled by other agents that it becomes filled with other things besides facts. Processed information is like processed food. As other agents digest information, they add supplements, additives, and chemicals to it. And just like how processed food is less than healthy, processed information can have negative consequences.

In what follows, I perform a conceptual analysis of processed information showing some contemporaneous examples of it. This analysis reveals its additives that can make it worrisome when processed information is used. Finally, I ask the call's question: "How can we best equip schools, parents, and publics for the knowledge and information tasks that are part of healthy democratic societies around the world?"[2] I answer the question by defining processed information and proposing some ways to guard against it.

PROCESSED INFORMATION'S ADDITIVES

To begin our exploration of processed information, an appropriate place to start is George Orwell's *1984*. Consider main character Winston Smith's job—every day he receives instructions "to alter, or, as the official phrase had it, to rectify" language in official documents to show the state is never wrong.[3] When Big Brother makes predictions about the ongoing war that turn out to be false, Winston finds every mention of Big Brother's speech and changes

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the speech, so it predicts what actually happened. Thus, Winston processes the information that contains memories of reality wherein Big Brother was wrong.

The result of this processing means the average citizen can only ever find evidence that Big Brother has always been right. There is no written record of anything otherwise. In fact, as a part of Winston's routine, he is encouraged to throw away any paper that implies that he did his work—down the memory holes go his instructions and drafts. In this example, the result of processing information quite literally means a product that is the opposite of the starting material.

This change of meaning might seem fantastical and divorced from the real world, but there are contemporary cases that resemble this revision of reality. Christopher Rufo infamously aired his strategy for ginning up ire against Critical Race Theory, writing on X, formerly known as Twitter: "We have successfully frozen their brand—'Critical Race Theory'—into the public conversation and are steadily driving up negative perceptions … The goal is to have the public read something crazy in the newspaper and immediately think 'Critical Race Theory….'" [4] The life cycle of Critical Race Theory is an interesting lesson in processed knowledge. Critical Race Theory was theorized by legal scholars like Derrick Bell and Kimberlé Crenshaw as a way to talk about the influences of racism and white superiority on American law and legal theory.[5] Outside of academic legal circles and other scholarly conversations though, many Americans' introduction to the term has probably been through Rufo's inveighing against it.

Rufo has acted like Winston Smith in *1984*—latching onto language that already exists and re-contextualizing all of it to have the same negative connotation. For Rufo, Critical Race Theory is itself racist even though Critical Race Theory was originally theorized as a way to fight back against racism. Rufo has processed Critical Race Theory for his followers into a catch-all term denoting racism. This example draws out the anti-veracity additive of processed information—processed information risks, or in this case knowingly positions, either switching the truth claim of a proposition from A to Not A or totalizing the information so it is the only truth of reality.

In a democratic society where free speech is protected, the anti-veracity additive is always going to be attached to processed knowledge. People can freely

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use the term "Critical Race Theory" even if they have not taken a graduate seminar to fully understand it. Some might argue that a way out of this bind is to fight fire with fire—as Rufo ramps up his speech, so should Critical Race Theorists. However, this argument is only sound if networks like Fox News are willing to give as much time to Crenshaw as they do to Rufo, and if Crenshaw sees being on Fox News to be a useful way of spending her time. Because these premises do not describe the world we live in, processed information always runs the risk of affecting the truth claims of that information.

Another example of this anti-veracity additive of processed information in *1984* is in how Big Brother's Oceania conducts war. Oceania is continuously at war with one of two nations—Eastasia or Eurasia. When Oceania is at war with one of them, it is allied with the other. Big Brother intermittently makes an announcement that Oceania is at war with its ally, causing Winston Smith and other bureaucrats to change all propaganda and history to show that is the nation with which Oceania has always been at war.[6] While this is certainly an example of the anti-veracity additive, it also demonstrates a second additive of processed knowledge—the propaganda additive. State actors can use processed information as a way to manipulate seemingly true information to set state machinery in action to provide propaganda and direction to citizens. The propaganda additive says that when state actors use processed information, it takes on the form of dishonest propaganda. As seen in *1984*, this dishonest propaganda directs the actions and beliefs of citizens. In *1984*, Winston argues with his love interest, Julia, about the switching of war between Eastasia and Eurasia. Julia works in the Fiction Department and although she knows the war is a sham, she is still convinced that Oceania had always been at war with Eurasia.[7] Often the powerful in society make truth this mutable.

When Rufo was loading Critical Race Theory with negative connotations, he was seen on television by then-President Donald Trump who immediately reached out to Rufo to begin working on an executive order to make the use of Critical Race Theory illegal in training for federal workers.[8] In this case, the processed information version of Critical Race Theory influenced the behavior of a state actor who further processed the information into federal policy that affected the actions of others.

Similarly, Rufo's processed information version of Critical Race Theory has motivated conservative parent groups across the country to begin contesting books and other curricular choices in their local schools.[9] Every time one of these stories occurs, the processed information version of Critical Race Theory becomes more ossified and embedded into cultural knowledge because Crenshaw, or some other expert, is definitely not at all of these local school board meetings.

The propaganda additive need not be added by a state actor. Group dynamics can also add this additive. Michele Moses reminded us last year that the contemporary political left and right increasingly are fertile ground for disinformation.[10] She cited the work of Olúfémi Táíwò who demonstrated the epistemic results of belief polarization. For example, Táíwò showed how group dynamics arising out of feminist standpoint epistemology perform what he has called a politics of deference, which he argued often acts against feminist or social justice goals.[11]

As these examples reveal, there is also a third additive of processed information—the oblivion additive. When information is processed, it risks being forgotten. Rufo's processing of Critical Race Theory gives a real-world example of the oblivion additive just as it did the anti-veracity and propaganda additives. Florida governor Ron DeSantis credited Rufo for "focusing attention on some of these pernicious ideologies" when DeSantis signed the Stop W.O.K.E. Act into law.[12] The Stop W.O.K.E. Law mandates the history of America students in Florida must learn. Among this history is history of the African slave trade, the Civil War, and the civil rights movement, but all of these topics must not be taught in a way that is consistent with a group of unwanted theses including those that say "An individual's moral character or status as either privileged or oppressed is necessarily determined by his or her race, color, sex, or national origin."[13] Interim executive director of the ACLU of Florida noted this combination would "chill free speech in classrooms."[14]

This chilling effect could result in teachers not teaching different parts of history for fear of overstepping their rights as educators, creating the oblivion additive of processed information. But the oblivion additive has another manifestation too. While it can drive unwanted information out of the discourse, processed information can disrupt methods and strategies for finding

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the truth. Florida engaged in this second manifestation of the oblivion additive when Florida approved PragerU as an educational vendor.[15] Study of PragerU has revealed that its content seeks to sow distrust of "mainstream media" and to paint the Left as increasingly "radical."[16] Thus, traditional ways to receive information are discredited.

Tripodi has shown how watchers of PragerU videos replace strategies of consulting mainstream media and academic investigation with another method that is vulnerable to bias. In her study of conservatives, Tripodi found her participants had been convinced of the untrustworthiness of traditional ways to find information. When Tripodi asked her participants what they meant by "doing your own research," "one hundred percent of the people [she] spoke with began with a Google query."[17] Documenting the conservatives' understanding of the meaning of Google results, Tripodi observed they often considered the first results as the most important or most popular and therefore credible. If a lot of people are clicking on a certain link, then it must mean that link is trustworthy.[18] Consulting mainstream media and academic inquiry are obliviated and replaced with algorithmic search results that rarely challenge preconceived ideas.

It is worth mentioning how groups themselves can also add this oblivion additive to information by discouraging group members from using alternative sources. Táíwò worries that a focus on the representation of marginalized groups risks not appropriately holding the systems accountable for the problems people who are marginalized face.[19] Focusing exclusively on the wrong thing has the same effect as the oblivion principle and discourages members to think beyond the representation problem.

This section has introduced the concept of processed information while observing its three additives of anti-veracity, propaganda, and oblivion. In what follows, I distinguish processed information from misinformation and disinformation.

PROCESSED INFORMATION, MISINFORMATION, AND DISINFORMATION

To begin to think about how processed information is unique from misinformation and disinformation, it is necessary to get clear definitions of misinformation and disinformation. The 2024 call says that misinformation

and disinformation are both about conveying ideas "that are other than accurate," while only disinformation implies "deceptive intent."[20] Philosopher of information Sille Obelitz Søe provides a similar distinction: "intentionally non-misleading information, unintentionally misleading information (that is, misinformation), and intentionally misleading information (that is, disinformation) are all kinds of non-natural information."[21] Thus, Søe argues that the important feature that distinguishes misinformation and disinformation from information "are intention/intentionality and misleading/non-misleadingness, and not truth/falsity."[22]

Søe uses speech acts that would be classified as irony to show why this account is more fitting of how language is used. While an ironic statement may not be true, it can still be classified as intentionally non-misleading.[23] My concern is that Søe's framework does not account for the worries about social media algorithms that Henry Lara-Steidel has considered.[24] In Søe's framework, the intentional/intentionality metric implies an agent. Disinformation as intentionally misleading information implies an individual or state doing the misleading. But misinformation as non-intentionally misleading also implies the agent delivering the misinformation does not intend the information to be misleading. There ought to be a distinction between the intention placed in the sharing of (mis) information and whether or not the agent knows the truth value of the (mis) information. What do we say about the Facebook user who reposts a post she believes to be true but without the intention of persuading her friends and family? This act is intentional and results in misleading a group of people so it has to be disinformation, right? This reading of Søe is not charitable. A charitable reading would recognize that the intentional misleadingness of disinformation requires the individual delivering the (dis)information to be a liar. The Facebook case though is different from a case in which an individual notes information without intending that others follow that information. The latter case might happen when a person's private journal becomes public and inspires followers. Even if the information within the journal was misleading, the author did not intend for others to read it.

Both the Facebook case and the journal case under Søe are classified as misinformation, but there is an important difference between the cases that

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can be accounted for by introducing the concept of processed information. In the latter case, the actions of the disciples result in the processing of the contents of the journal. In their study of the private journal, the disciples give it an anti-veracity additive in accepting all that is said there as true, the propaganda additive as they begin proselytizing its content, and the oblivion additive as they stop investigating other routes for discovering information. Through this process, the disciples essentially wash the information in the journal, much like how criminal conglomerates launder money derived from illegal activity. The average person need not know if her money has at one time been obtained through illegal activity for that to be true and so too does the average person need not know if the information she believes to be true is the result of a processed operation. The Facebook case involves the sharing of already processed information. The fact that an individual, state, or organization has already crafted a Facebook post suggests that some of the operation of processing has already occurred. The Facebook case also reveals a fourth additive of processed information—*the fascination additive*. The Facebook user who shares the processed post does so because something about it is fascinating to her. This fourth additive is not a necessary part of processed information: it is possible processed information is not fascinating. However, the fascination additive adds to the ability of processed information to be passed along which will be especially important in our considerations of ChatGPT and TikTok in the next section.

The revelation of this fourth additive is the result of a clarification of the differences among misinformation, disinformation, and processed information. Thus, processed information has elements of anti-veracity, might operate as propaganda, inspires people to forget other ways of acquiring information, and is frequently passed along for its entertainment value. Processed information is a twenty-first century variation of secondary sources that is worrisome for some similarities it shares with processed food—its addictiveness, by way of its fascination additive, and its ability to fill the corresponding need. Processed food might satisfy hunger in a way that precludes someone from eating all of the necessary nutrients and vitamins in a day. Similarly, an overreliance on processed information keeps individuals from finding more reputable knowledge. The next section applies these definitions and additives to some contempora-

neous examples.

EXAMPLES OF PROCESSED INFORMATION

Processed information is fairly common in our daily interactions. The impressions individuals leave on concepts and other information when those concepts and information are used can result in that information becoming processed. Consider a concept like decolonization. In discourse surrounding the violence Hamas carried out against Israel on October 7, 2023, decolonization became synonymous with Hamas's actions in some circles. In response to views that held that decolonization is necessarily violent, critics began calling for the cessation of decolonization in the classroom.[25] But decolonization in the classroom has never been about motivating and/or justifying the violent overthrow of colonialism. Instead, it has sought to make the classroom a comfortable space for students of different identities, including those with non-European identities.[26] My argument is that this generally productive academic term becomes processed in a way that makes parents and the general public suspicious of even so much as its mention. Future uses of decolonization will need to account for this processing when communicating with certain audiences.

So far, the examples of processed information have been negative, but this is not always the case. ChatGPT, for instance, is not necessarily negative, but it does produce processed information without an immediate individual responsible. When asked what "decolonizing the classroom" means, ChatGPT provided a ten-aspect answer, beginning with "Decolonizing the classroom is a pedagogical and ideological movement aimed at challenging and transforming the traditional Eurocentric, colonial, and hegemonic perspectives that have historically dominated educational systems. It seeks to create a more inclusive and equitable learning environment that acknowledges and respects diverse cultures, worldviews, and knowledge systems."[27] Its answer is fine and does not equivocate decolonizing the classroom with violence, but analyzing the answer with attention to the four additives will show why it should be considered processed information.

Beginning with the anti-veracity additive, it is worth noting that ChatGPT's answer changes slightly when the question is asked anew. The key aspects of decolonizing the classroom shrank from ten to eight, and a connec-

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tion between decolonizing the classroom and decolonizing society at large was added the second time I asked the question.[28] ChatGPT does not operate like an encyclopedia, meaning it contains the anti-veracity additive—it is possible that truth claims might be unique for each individual user of ChatGPT and untrue for others. If truth claims of ChatGPT's answers can be unique, then it divorces them from correlation with reality in the observable world. In this way, the information provided by ChatGPT is processed and separated from what is true.

Turning to the propaganda additive, it is imaginable that a state or organization could use ChatGPT to generate simple prose to appeal to citizens or individuals. Most of the key aspects of decolonizing the classroom in both answers begin with gerunds: for instance, "Embracing indigenous knowledge systems and worldviews is a significant part of decolonizing education."[29] However, each answer has one key aspect of decolonizing that calls out an audience explicitly: for instance, "Educators are encouraged to be more culturally sensitive and inclusive in their teaching practices."[30] This call to action is consistent with a definition of propaganda. Propaganda aims "to provoke action…to make the individual cling irrationally to a process of action … to loosen the reflexes … to arouse an active and mythical belief."[31] By naming the actors (for example, educators), ChatGPT begins to provoke this kind of action.

The oblivion and fascination additives are more implicit. The oblivion additive is present in the fact that ChatGPT does not cite a single source in its discussion of decolonizing the classroom. ChatGPT's answer excludes deep scholarship on this topic involving scholars across time and disciplines. While the answer is more sympathetic than the example given at the beginning of this section where decolonizing the classroom is linked to violence, it shares with the fist example a lack of engagement with research literature. Similarly, the fascination additive is present in the conciseness and readability of ChatGPT's answer. This is not a dissertation or even an academic article on decolonizing the classroom. Instead, ChatGPT gives the questioner eight or ten actionable items that are easy to digest and may not even challenge preconceived ideas.

TikTok is another contemporary technology and information-delivery medium that has many of these same additives. TikTok videos can be up to

ten minutes long but can be created with music, text, filters, and other effects. Programmed with an algorithm that is meant to keep the users watching, a TikTok feed is filled with examples of processed information in addition to dance, music, or joke trends. These elements contribute to TikTok's fascination additive. Indeed, a study has found that educators can leverage this fascination additive of TikTok to support student learning.[32] But TikTok's algorithm could very easily be encumbered by the anti-veracity additive. If the educator's TikToks are about say the shape of the Earth, TikTok's algorithm could just as easily share with the educator's students flat-earther conspiracy videos. When thinking about the oblivion additive, TikTok faces some of the same issues as the other examples considered in this brief essay. Because TikTok is not an easy venue for linking sources that are not themselves TikTok videos, the existence of resources outside TikTok lose importance for obtaining information. And as with ChatGPT, it is easy to imagine states or other corporations using TikTok as a way to disseminate propaganda.

As these contemporary examples of processed information show, there are issues for educators in designing lessons to help students navigate the twenty-first century information ecosystem. The case of the critics of decolonizing the classroom suggests educators face the same kind of issue that I raised in the first part of the paper around Critical Race Theory. It seems like every instance of "decolonizing the classroom" needs to be linked with the correct research-informed definition. Looking at ChatGPT indicates a challenge for educators in finding common sources for a group of students to have shared truth. Finally, analysis of TikTok revealed a similar issue in which algorithms could lead students away from the truth. It is important to note that while I have focused exclusively on historical and social information as information that can be processed; processed information need not be limited to these fields. Recent examples of vaccine disinformation might be better understood as processed information without clear malevolent bad actors, for instance.[33] The next and final section will contemplate educational remedies for these issues.

REMEDYING PROCESSED INFORMATION PEDAGOGICALLY

Processed information poses an especially complicated issue for educators because, with the internet, processed information is increasingly just part

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of twenty-first century reality. At first, it seems that it would be useful to teach citizens how to use new technology in a way that is consistent with upholding democracy. As Lara-Steidel points out, though, while individual users are the agents that generate and consume most of the content on social media, social media companies provide the platforms for this generation and consumption to happen. Therefore, Lara-Steidel argues the state has an interest in putting together regulations ensuring those platforms remain generally free of viral misinformation.[34] This prescription applies to the problems raised here about processed information as well. The above Facebook case of misinformation-sharing turning into processed information could be stopped by a robust fact-checking system imposed on Facebook by the state. Such regulations could battle the anti-veracity, propaganda, and the fascination additives. But it would probably depend on user likelihood to click through whatever disproving resources were provided in order to similarly battle the oblivion additive; it is only by clicking on the material that users would encounter alternative ways of arriving at information— through regulated news sources, academic research, or other trusted sources.

Thus, in addition to state regulations on social media, I want to provide three recommendations for educators to teach students to deal with a world replete with processed information. First, the concept of processed information itself might be pedagogically useful. Because processed information does not necessarily need an instigator, drawing student attention to the sharing of processed information need not be cast in the moral light a criticism of lying disinformation would require or in the epistemic hierarchy that a criticism of less-informed misinformation imposes. Instead, students could be taught how processed information might be okay to use in a pinch (like someone would rely on processed food), but non-processed information is more intellectually fulfilling. In other words, learning that happens on TikTok could be redirected to fact-checking in more reputable sources. Second, in order to provide foundation against the oblivion additive, educators should find ways to introduce students to material that introduces them to past and present injustices. This recommendation is further supported by Espindola's argument for the necessity of teaching historical injustices in supporting student development of autonomy.[35]

Finally, educators might experiment with methods of using media filled with processed information in the classroom. For instance, educators could assign students to fact check TikToks or ChatGPT's answers. Or educators could use technology like TikTok to deliver course content to students and model best practices for countering processed information in that medium. The prevalence of processed information at this particular technological moment might seem intimidating, but the differences between this moment and the invention of the Gutenberg Press, or television, or the internet is one of magnitude only. Processed information becomes prevalent when societies struggle to find ways to differentiate between trustworthy and non-trustworthy information. I hope these reflections serve to begin these differentiations for new media.

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