THE SIGNS OF PROTEUS

Nexa Center for Internet & Society
Turin Polytechnic University

"The Wednesdays of Nexa"

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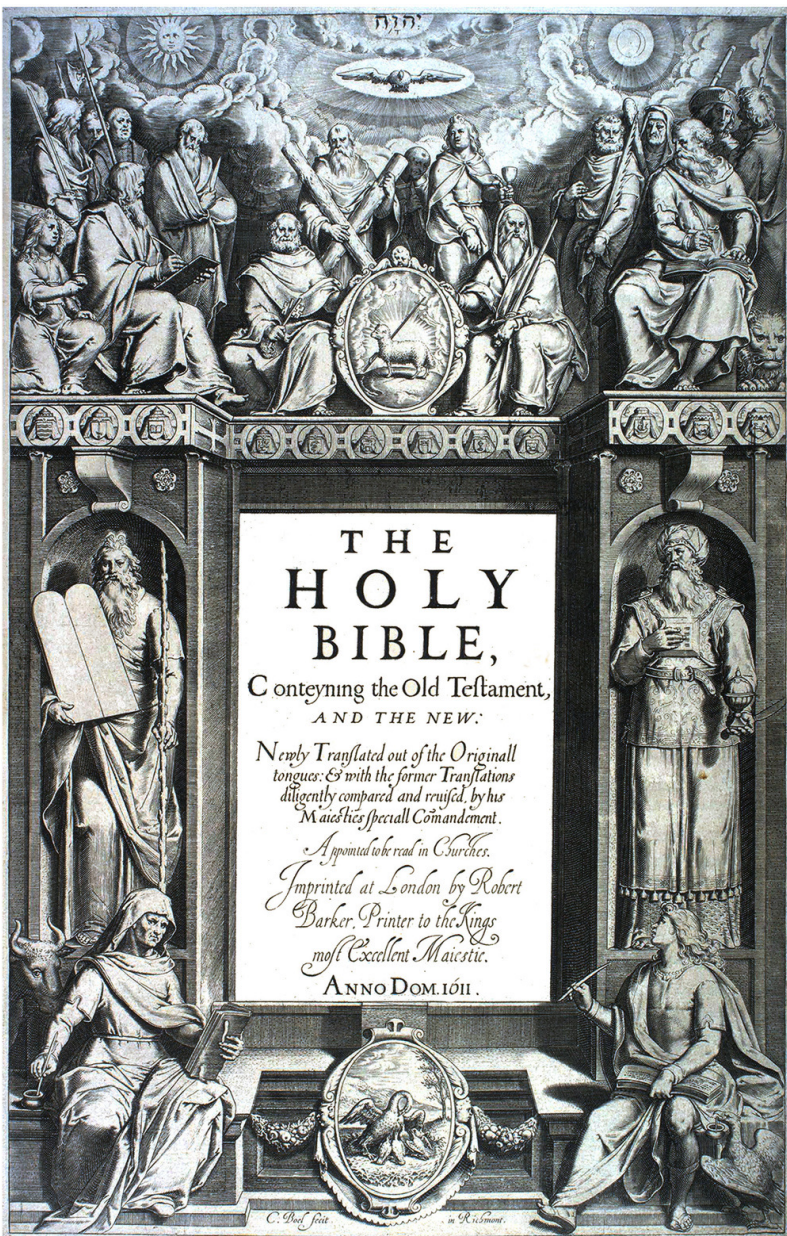Massimo LEONE
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Introduttione della Serenata. Proteo con Venere Sul Tergo.

First, some mythology.
Who is Proteus?

In Greek mythology, Proteus is a prophetic sea deity known for his association with rivers and oceans and referred to by Homer as the "Old Man of the Sea." He embodies the elusive and ever-changing nature of water, symbolizing transformation and fluidity. Although he possesses the power to foresee the future, **Proteus avoids revealing it by constantly shifting his form**, surrendering his secrets only to those who manage to capture him.
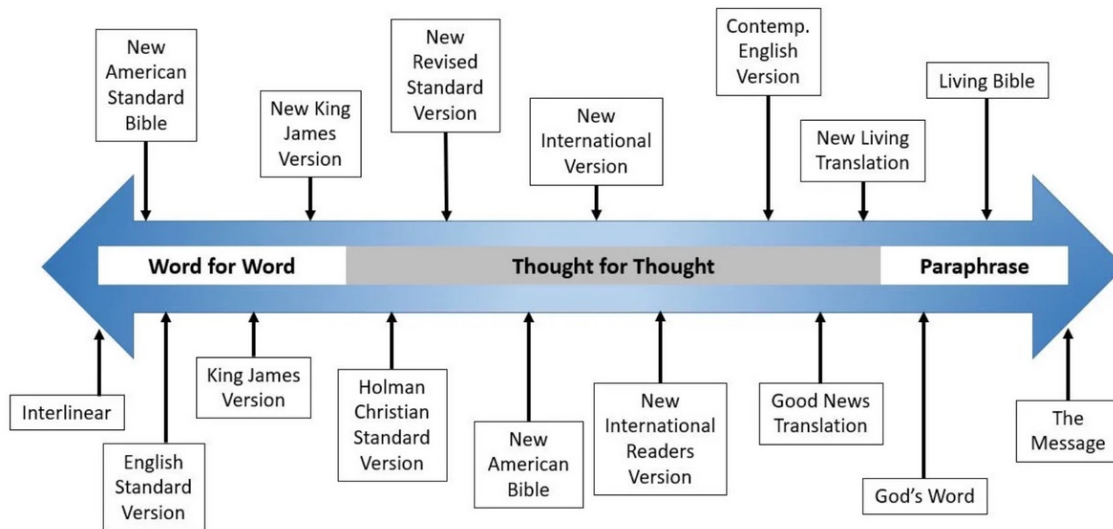
Second, some semiotics.
What is "content"?

L. T. Hjelmslev defines "content" as one of the two parts that make up language, the other being "expression" (how something is said). Content is not just the meaning or message itself, but the way meanings are organized and structured in a language system. It's about how ideas take shape through patterns and differences, not just what those ideas are. Content only makes sense when connected to expression—together, they form a complete sign. So for Hjelmslev, content isn't just about what we say, but how our language system lets us say it.

Third, some anthropology.

Can we separate expression and content?

The idea that we can separate what is said (content) from how it's said (expression) comes from a particular way of thinking about signs. This way of thinking—called **a semiotic ideology**—assumes that changing the form or style of communication doesn't really change the core message. It treats expression as something superficial, and content as something deep and unchanging. But this belief isn't universal—**it's a specific cultural habit of understanding meaning.**

Christianity, and with it the cultural formation of the West, introduces the revolutionary idea that the Sacred is translatable—that divine truth can pass from one language, culture, and form of expression to another without losing its essence. This belief implies that **what ultimately matters is not the original form but the content it conveys, which is seen as stable, universal, and capable of surviving even radical changes in its expression**. Translation, in this framework, becomes not only possible but necessary, affirming the conviction that the truth of the Sacred transcends the particularity of its linguistic or cultural vehicle.

BIBLE TRANSLATION CHART

New American Standard Bible
New King James Version
New Revised Standard Version
New International Version
Contemp. English Version
New Living Translation
Living Bible

Word for Word | Thought for Thought | Paraphrase

Interlinear
English Standard Version
King James Version
Holman Christian Standard Version
New American Bible
New International Readers Version
Good News Translation
God's Word
The Message

From the early affirmation of translatability in religious texts to the invention of movable type printing and, eventually, the rise of digital media, Western culture has progressively embraced a protean understanding of culture—one in which meaning is not fixed to any single form but is seen as inherently mobile, adaptable, and reproducible across different supports and contexts. **This trajectory reflects a deep-rooted belief in the separability of content from expression**, and in the possibility—indeed the value—of reshaping, reformatting, and circulating ideas without compromising their core. Culture, in this view, becomes an ever-shifting constellation of meanings, capable of assuming multiple forms while retaining continuity across change.

The digital, with its foundational logic of encoding all forms of information into sequences of 1s and 0s, is deeply infused with this semiotic ideology that posits a radical separability between content and expression. By reducing meaning to code—abstract, neutral, and ostensibly universal—the digital reinforces the belief that ideas can be endlessly transformed, reformatted, and re-expressed without loss. **This ideology underpins the global circulation of digital content**, suggesting that meaning can travel seamlessly across languages, media, and cultures, unimpeded by material or contextual boundaries. It is a vision of communication rooted in the Western tradition of translation, now elevated to a technical absolute.
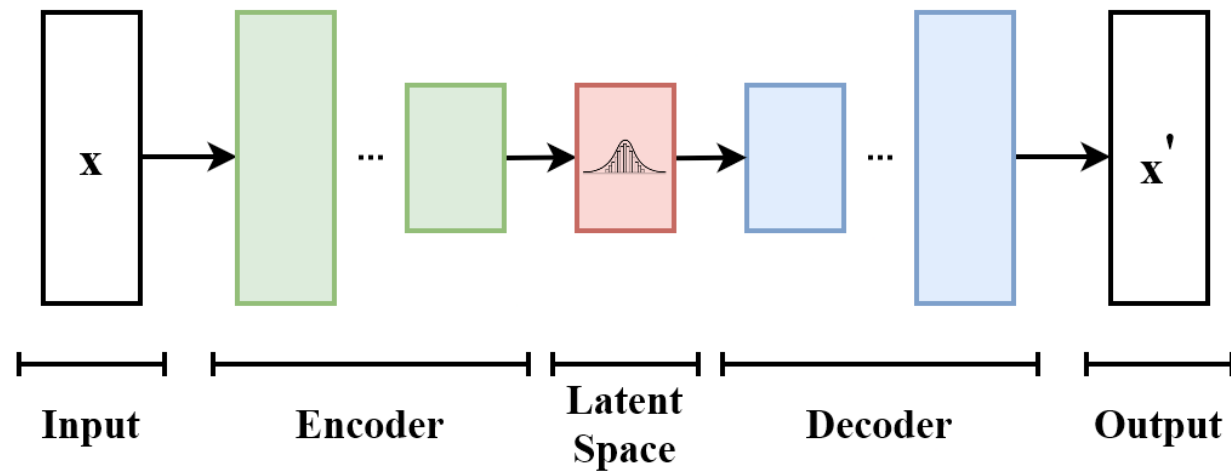
The variational autoencoder can be understood as the ultimate outcome of this Western semiotic ideology—a model of meaning in which content is entirely abstracted from form, encoded into latent representations, and then re-expressed in any number of formats. In machine learning, a transformational autoencoder compresses input data (be it text, image, or sound) into a condensed internal structure—its latent space—which does not resemble the original form but preserves its informational core. This latent representation can then be decoded into a different modality or style, generating outputs that are radically transformed in expression yet purportedly equivalent in meaning or function.
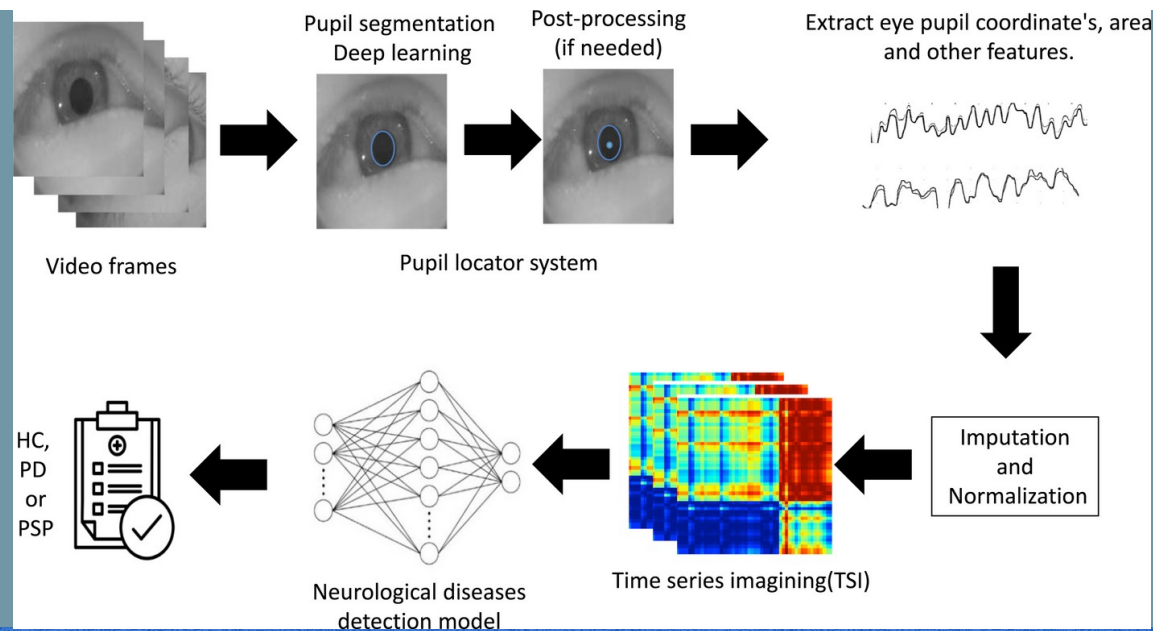
Autoencoders can **enhance medical diagnostics** by detecting subtle facial anomalies linked to genetic or neurological conditions, enabling early and non-invasive screening. They **support accessibility technologies** by improving facial recognition for individuals with atypical facial features, aiding communication and mobility. In digital forensics, autoencoders **help reconstruct low-quality or damaged facial images**, assisting in the identification of missing persons or suspects.
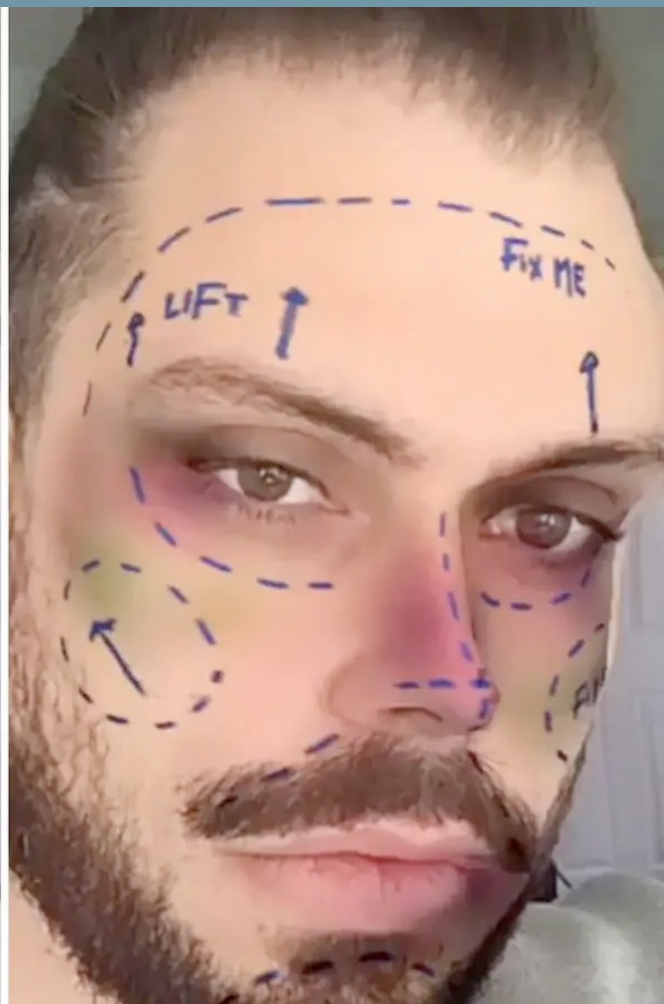
On the contrary, when used in facial filters—such as the infamous Instagram filter "Fix Me"—autoencoders can convey to vulnerable adolescents the harmful idea that their natural face is insufficient or flawed. By subtly or drastically altering facial features to match narrow, idealized standards of beauty, these technologies **risk reinforcing feelings of inadequacy and promoting dysmorphic self-perception**. Instead of empowering, they may pressure users to conform to digitally constructed norms, blurring the line between playful transformation and internalized self-erasure.

ALGOWASHING

Autoencoders, while powerful tools of visual generation and transformation, can also participate in what may be termed a process of **algowashing**—the concealment or reinforcement of cultural and racial biases under the guise of algorithmic neutrality. When, for instance, machine learning models trained on biased datasets produce representations of Roman emperors with blond features—echoing Nazi iconography rather than historical evidence—they do not merely generate alternative aesthetics; they re-inscribe ideologies of racial purity within seemingly objective computational outputs. In such cases, the encoder compresses not only visual features but also the latent prejudices embedded in the data, allowing them to resurface in new, seemingly innocent forms, masked by the authority of the algorithm.

(a) Latent space distribution of emotion   **(b)** Latent space distribution of action
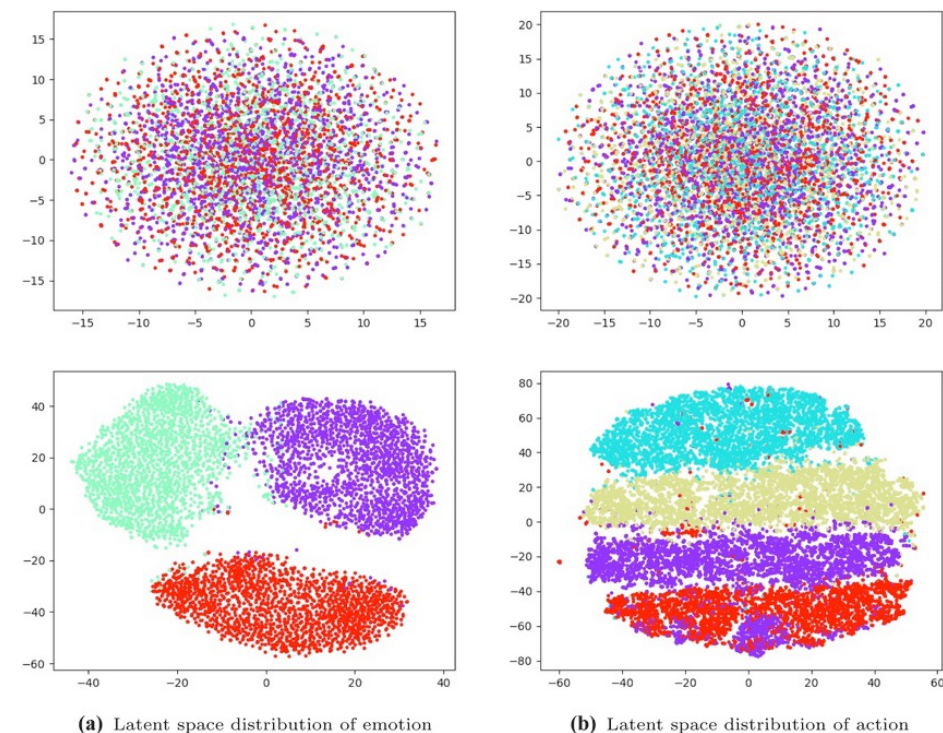
Third last, some mathematics.

What is the new form of content?

In the emerging digital culture shaped by variational autoencoders, form does not vanish—it becomes invisible. No longer tied to surface appearance, form is now embedded in the latent space, where the statistical shape of data—its distributions, correlations, and variances—constructs **a new kind of stochastic necessity**. This latent form, though hidden from view, exerts a powerful influence over how content is generated, interpreted, and displayed in AI-driven media; it encodes patterns and tendencies that guide the re-expression of content, subtly shaping outcomes and introducing biases not through overt design but through the deep structures of data itself.

Second last, some economics.

Cui prodest?

The new culture of AI presents itself as a celebration of infinite variability—an endless play of forms, styles, and outputs—but beneath this apparent freedom lies a regime of stochastic necessity, where each variation is statistically preconditioned by patterns in data. What is marketed as openness and creativity is, in fact, tightly governed by probabilistic constraints, encoded in latent spaces that define what can and cannot be generated. This logic echoes the Western embrace of translation, not merely as a means of preserving meaning, but as a mechanism for producing difference—an engine of transformation **that feeds directly into the market economy**, where change fuels desire, and desire becomes a source of profit. In this system, the illusion of choice is structured by algorithms, and cultural variability becomes a managed resource for economic circulation.

Third last, law.

Which author? Whose property?

BUT...back to mythology

Symb. LXI.

Often overlooked in the myth of Proteus is the crucial detail that he reveals the future only when his protean transformations are held fast—when the shifting forms are gripped and constrained. Likewise, in today's AI-driven culture, it is not enough to marvel at the endless variability of generated content; we must grasp, through critical tools such as semiotics, the inner workings of these transformations—the latent architectures, the encoded norms, the statistical logics that shape what appears. Only by understanding these hidden mechanisms can we discern what they truly reveal about the idea of humanity that is being constructed. And perhaps, in this process, a new space will emerge for the untranslatable—a renewed sense of the sacred not as something to be endlessly transformed, but as that which resists conversion, and **thus grounds the human in what cannot be reduced to code.**

THANK YOU!