

## Technology Of The Voice

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Experiencing a voice. A singing voice. A lump, a mass. Like a muscle, a pulsating heart. Or a black hole, which, without being detectable by our senses, still exerts its force of attraction on us. Which tickles under our skin and pulls at something within us, something we did not know was magnetic.

The voice is a girl, a creature, a man, a being, a monstrosity, a woman, a boy. Natural, unnatural or supernatural. But it is *one*. A unit, one identity. One.

### The composite voice

Let us step inside the recording studio. Here, the identity we call *pop singer* is produced. It is this dream factory which makes the voice you hear on the radio something completely other than just a *human being singing*. The people who work here use a wide range of techniques to build the singer, the pop star, that human but still unattainable voice.

*Singer -> Vocal booth -> Pop shield -> Microphone -> Amplifier -> Equalizer -> Auto-tuner -> Compressor -> Reverb -> ...*

Already in the vocal booth, we encounter one of the critical links of this chain. This extraordinary room allows us to catch the singing voice in an environment where we otherwise rarely hear it: in an almost completely dampened space. (Ironically almost the exact opposite of the venues favored by classical singers: where rich acoustics support the tone of the vocalist.) But why this dampened room? One answer could be *intimacy*. While reverberation instantly gives us a feeling of distance and spaciousness, the dry sound of the vocal booth allows us to hear the vocalist as though she were as close as twenty centimeters from our ear.

Which leads us to the next step of the chain: the microphone, and its guardian, the pop shield. Despite all the talk about high fidelity, this metallic lump, acting as the listener's ear, is by no means honest. Like the *mirror*, *mirror on the wall*, it offers a reflection which is far from objective. The sensitivity of the microphone's thin membrane is enormous, easily exaggerating dynamic variations. Also, its frequency response is by no means undistorted; in what we call "high quality studio equipment", we often find an almost pornographic amplification of the treble. Just like the absence of reverberation, these high frequencies signal *closeness* (our ears know very well that the treble is the first register to disappear as the distance to the source of a sound increases).

In particular, consonants – these sounds rich in sibilant, high-frequency components – are, through this mediation, turned into sheer, crisp treasures.

(Is it the feeling of Thomas Öberg whispering in my ear which makes me seized by desire for clicking consonants in bob hund's Blommor på brinnande fartyg? ([www.youtube.com/watch?v=aFQx6J-i\\_rI](http://www.youtube.com/watch?v=aFQx6J-i_rI)))

And so on, through the flow: the idiosyncrasies of the *microphone amplifier* color the sound, the *equalizer* further sharpens the sound, and the *auto-tuner* corrects any off-key notes, to give the singer that unearthly, perfect quality. The *compressor* adjusts the dynamic levels of the signal (in part to compensate for the microphone's extreme sensitivity) and creates that ghostly *presence*: the amplitude of the signal is evened out, turning loud into "loud" and soft into "soft" – the actual volume is constant, but subtle changes in the behavior and timbre of the voice still give us the illusion of peaks and troughs.

The *reverb* gives us that feeling of space, which the vocal booth's lack of reverberation denies us. No real, physical space, however, but a perfect, virtual space. (Isn't that an interesting image: the preference among recording studios for certain reverb units places all singers in the same room. Not just the same aesthetic coordinates, by homogenizing the sound through applying a standard model of sound processing. But also identical acoustic spaces: the widespread uniformity in the use of artificial reverb gives us the impression of all singers inhabiting the same physical place.)

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This is just a rough sketch. The production line is long, and may contain even more steps in the construction of

the *singer*. But despite its composite nature, we easily hear this aggregate, this complex of sound production, as a unit, *one* object, *one* creature. This conjoined, studio-processed identity might even appear simpler and more tangible than the "naked" voice of your friend humming a few bars of the latest chart-topper. Whereas the amateur constitutes a living individual, whose identity, musical talent and cultural belongings we need to scan, read, localize, the meticulously treated studio product offers us a comfortable umbrella term: *pop singer*.

Regardless of what else it might be, outside or inside of this, this voice is first and foremost *pop singer*. It has qualified, fulfilled the demands, it *passes* as a pop singer, and this fact overshadows all other peculiarities or variations.

We can safely – without examining them too closely – register any faults or deviations as being "within reasonable limits"; had they been too large, the voice would never have been allowed entry into the domain of the pop singer in the first place. A kind of Catch-22: the singer is stripped of their humanity precisely because *their status of being a singer* makes us dismiss any anomalies as irrelevant.

### Techniques and technology

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There are different ways of hearing. We can put our purely aesthetic senses aside; no longer that cross-draught through wide open windows which characterizes extra-rational (taking place *outside* of the rational) experience. Instead: listen, study, analyze. And as soon as we leave the domain of the sensual and non-reflecting, to speak instead in more technical terms, our image of *the singer* changes. No longer a whole: the aesthetic body, the familiar shape or the hard, glowing knot of expression, intention, identity. Instead, an oblong constellation stretches in front of us, something segmented and hence frail, porous. A chain:

*lungs -> throat -> vocal cords -> oral cavity -> tongue -> teeth -> lips -> room -> pop shield -> microphone -> amplifier -> auto-tuner -> compressor -> equalizer -> delay -> reverb*

What was zero-dimensional – borderless, only a presence, *an aesthetic singularity* – now has gained extension: a one-dimensional object, from left to right. This is by no means a harmless or an insignificant fact. No, it is to be regarded as nothing short of a paradigm shift.

The possibilities are now dizzying: development, process, hierarchy, narrative, tension-resolution, a before and an after, an above and a below. A primary and a secondary. Parts, labels, categories.

A new way of seeing creates a new image of the object. At first we might perceive it as peaks and valleys. Then the vision becomes clearer, our eyes taking the time to focus: it now appears as a string of pearls, like buds in a row or berries on a straw. De-tach-a-ble. Now there is a contour, a spot to grip, to *drive the wedge*. To shatter. SEPARATE.

Not so much to separate *lungs* from *throat* from *vocal cords* from *oral cavity* from *tongue* from *teeth* from *lips*. But between *lips* and *room*, a wedge is driven, a crowbar inserted. That which is *human body* is separated from that which is *not human body*. Room, pop shield, microphone, amplifier, auto-tuner, compressor, equalizer, delay, reverb – this part of the chain stays intact, still connected. It remains a unit: it is *studio*. It is *not human body*.

(Of course, it is possible to make further divisions, within that which we call *studio*: *pop shield* is bundled with *microphone* and *amplifier*, to form what we call *recording equipment*. The following elements are collected under the term of *effects chain*. But these separations are subordinate and insignificant compared to the chasm, the gorge which is opened up between *human* and *not-human*.

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Language supports this division, but at the same time shows how intimately connected the two halves are. An example: by singing in falsetto mode, we can place our voice in a register higher than the one we use for everyday speech. But a similar displacement can also be achieved through the use of a *pitch shifter* – an electronic device used for raising or lowering the pitch of a sound. The former (falsetto), we call "a technique" (more specifically "a vocal technique"). The latter (pitch shifter), however, falls under the designation of "technology".

By starting with the same root (derived from the greek word *téchnē*), language acknowledges that the two ways of shaping the voice (intracorporeal and extracorporeal) are interrelated. At the same time, however, it makes sure to clearly mark the difference between the two, to ensure that a fundamental rule is followed: the human must not be mixed up with the not-human.

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This division may be valid as long as we stay on a reasonably simple level: technology is something that is *applied on* the human being. The artificial, unnaturally technical *distorts* the naturally human. A soprano is transposed into the bass register for a comic effect. A male voice is played back at double speed, exaggerating all mannerisms, making vibrato twice as wobbly. The human being is the starting point, the machine is something secondary, an intruder.

But reality has a tendency not to be so simple. Hierarchies not unidirectional; above not superior to below. A key term is *reciprocity*. Sound production is no exception. A voice is consciously recorded in a lower octave, only to be transposed to its intended pitch by electronic means. This is a way of transferring the characteristic features of a relaxed low register into a new domain. Thus: in the treble, where we expect the sound to be tense, the singer struggling to reach the high notes, we suddenly notice a relaxed, carefree voice, floating by, light as a feather.

Or listen to T-Pain (<http://www.youtube.com/watch?v=rxRvDpF2FDA>). The artist who has come to be synonymous with *auto-tune*, the most desired and despised voice processing software of the early twenty-first century. Who has sharpened his aesthetic spearhead to the point of being accused of starting an epidemic. Just look at how Jay-Z produced a song D.O.A - Death of Autotune ([http://www.youtube.com/watch?v=aMuf\\_ekJhOs](http://www.youtube.com/watch?v=aMuf_ekJhOs)) with the sole purpose of scolding his colleagues for being influenced by the seductive sound: "Get back to rap, you T-Pain-in' too much".

What does T-Pain sound like? T-Pain does *not* sound like Faheem Rasheed Najm, claimed to be the person behind the moniker. T-Pain sounds like the synergetic connections between Najm's body, the vocal booth, the microphone, the compressor, the auto-tuner ... Without the effect and interplay of these components, the voice – the identity – which we call T-Pain does not exist. This is a collaboration between organs and circuit boards, where none of the parties can be considered primary or more central.

And thus the connections run, from right to left, left to right, from the bottom up, outside in. The compressor's ability to attenuate dynamic variations is a prerequisite for using the sensitive large-membrane microphone. The microphone's exaggeration of the treble brings out that sensual leakage of air, required of anyone aspiring to sing pop. At the same time, however, a *de-esser* keeps already high-frequency sounds like s's and f's from going out of control, threatening the balance of the whole mix. Nor does the vocalist have to worry about evening out differences between loud and soft notes, as this can be compensated for elsewhere in the effects chain. The dry acoustics of the vocal booth gives the recording a feeling of closeness and intimacy, while the reverb unit provides the voice with a discreet but ever so essential sea of reverberation to slide on. Not to mention the fact that the studio format's possibility of making overdubs and retakes allows the vocalist to be perpetually performing at peak capacity. Between one hard note and the next, the vocal cords can have hours of rest, something the classical singer can't even dream of.

These kinds of connections – running back and forth through the chain of corporealities, spaces and machines – are common, and they question the relevance of drawing the uncrossable dividing line between beginning and end, original and corrupted copy, human and not-human. When we speak of the voice – the voice we hear in that recorded world of pop songs and commercials which increasingly constitutes our reality – there is no before and after, no "the human" and "the not-human". There is only *the voice*. The voice which tickles us,

attracts us, disgusts us. Which makes us want to consume, and which makes us say that no, we won't fall for those dirty tricks, the hell if we're going to buy more, no matter what that glowing knot, that presence says. Which makes us desire and be disgusted by our desire and bathe in our sweet desire.

### A proposal: metabody

I've been thinking about the concept *metabody*. Can it be that nobody has coined that word yet? It feels so obvious; meta-, this eternal buzzword, this golden prefix, capable of transforming any dull subject into a cultural theory goldmine. And body; emphasizing the corporeal as a fashionable "fuck off" aimed at the dry rationalism of academic tradition. Metabody.

I use the word *meta* as in *metafilm* – film about film, or *metaphilosophy* – philosophy about philosophy (as opposed to the original greek meaning: "after" or "beyond").

And *body* as in living body, that which makes us into *creatures*, but also as in physical or astronomical body: something which is material, and thus exerts forces on its surroundings. (The physical body subjects nearby bodies to gravity. By what name can we call the forces of attraction and repulsion exerted by the aesthetic body?)

In any case, if the coast appears to be clear (and the word *metabody* actually proves to be available for my appropriation), and I actually decide to try out this concept – launch it like a naval ship – then this is surely the place to use it.

Because this aggregate, this complex consisting of *lungs, throat, vocal cords, oral cavity, tongue, teeth, lips, room, pop shield, microphone, amplifier, auto-tuner, compressor, equalizer, delay, reverb*, what is it, as it presents itself to our senses, if not a metabody? *One* body, singular – because that's where it began: we experienced a whole, heard the singing voice as *one*. But a *meta*-body, a body made up of bodies. Because when we switch perspectives, there is a change in the experience of what once appeared as indivisible. The musical atom, this kneaded lump, now reveals a surface of shifting colors. Nuances bearing witness of its constituent parts, the polychrome components making up the apparently uniform.

(This is where the process of shattering begins. Where we can find a crack, a place to drive the wedge. Separate – crush an illusion. We will do it again. But let us not do it right now. Let us rest.)

A body made up of bodies. By things that under certain conditions are intelligible as discrete entities ("A microphone. A lung. A compressor plugin. A tongue."), but that, when we listen in a different way, cease to exist as separate elements. No longer do we hear any aggregate of organs and electronic devices. We hear *Cher* (who, through her use of auto-tune in the best-selling *Believe* (<http://www.youtube.com/watch?v=LbXiECmCZ94>) myntade begreppet "Cher-effekten"). coined the term "the Cher effect"). We hear *Karin Dreijer Andersson* (who, working with the group *The Knife* and her solo project *Fever Ray*, entered an almost symbiotic relationship with her voice processing equipment (<http://www.youtube.com/watch?v=LHkIcZsORkU>)). We hear the identity that is *T-Pain*, which is not a singing Faheem Rasheed Najm, regardless of any recording contracts or birth certificates claiming to prove them to be the same person.

*Of course* they're not the same person. T-Pain is not a person; T-Pain is a star, a voice, a sound. An aesthetic identity. Faheem Rasheed Najm, on the other hand, is a person, a human being, a life. Who would ever get it into their head to mix up one with the other?