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The Resonance of “Bodyless Entities”


Radio as a mass media is primarily a product of its own resonances. To explain this thesis more specifically two preliminary considerations are necessary. The first one relates to the fact that the radio emerged twice. It did so once in Europe and almost at the same time in the USA separately. Both developments have converged not before the midst of the 1980s. Pursuing a short overview of what the voice in radio is about the following has to take a double look on the two different environments of resonance in which the voice has been embedded with the radio and before. First of all I have to discuss the striking fact that at least for one side of its emergence the practice of the radio-voice cannot be separated from the theory of voice which established itself long before the radio came into existence.

I.

The roots of a voice-theory we won’t find in America but in Europe. Here we meet in the first part of the 19th century once again with Charles Wheatstone in London, Multi-Scientist, Electrician, Optician, Gentleman, Pioneer of British Telegraphy, Experimentalist of his own kind, discoverer of the Wheatstone-Bridge and numerous other electrical switchings, examiner of the time of oscillations in discharging sparks and inventor of countless other physical procedures. In 1837 Wheatstone coined the simple formula that the human vocality consists of nothing else than multiple occurrences of sounding resonances in our head caves driven by the vocal chords.1 Thirty years later Herrmann von Helmholtz referred to Wheatstone’s considerations explaining the incidents in our oral cavity more precisely: „Je mehr die Mundhöhle verengert ist durch die Lippen, die Zähne oder die Zunge, desto entschiedener kommt ihre Resonanz für Töne von ganz bestimmter Höhe zum Vorschein, und desto mehr verstärkt sie dann auch in dem Klang der

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Stimmbänder diejenigen Obertöne, welche sich den bevorzugten Gradern der Tonhöhe nähern; desto mehr werden dagegen die übrigen gedämpft. ²

Worthy of note for media historians might be that Charles Wheatstone has been a good friend of the teacher of the deaf and phonologist Alexander Melville Bell, the discoverer of the telephone. Father Melville and Son Alexander Graham used to visit the old Wheatstone personally for many times not at least because of his replication of the famous speaking machine of Wolfgang van Kempelen. This wheatstonian replication encouraged numerous attempts of rather amateurish experimentations in the family of the Bells including slaughtering cats and preparing their glottis. Speaking machines have been the favourite objects of desire in the Bell family ever since. Even on his hasty move from England to Boston in 1872 son Alexander took with him almost nothing more than the just mentioned “Lehre von den Tonempfindungen” of Helmholtz. Obviously Alexander was obsessed by an illustration in the book, which might be called a tuning fork resonance machine. This machine in Helmholtz’ book should demonstrate how vocals could artificially be put together by their overlapping frequencies, but in Alexander Graham Bells mind it apparently produced the fixed idea that artificial vocals could be communicated by a telegraph. To put it in modern terms one could say that Bell might have seen in Helmholtz’ drawing a portable synthesizer for an electrically produced speech. This heavy misreading was caused by the fact that Bell couldn’t read German. But combined with the obsessed spiritism of his later Assistant Watson it paved the way to the discovery of the Telephone in June 1875, which was a casual and contingent and at the same time a coherent and logical event. ³

The 19th century saw plenty of explorations and discoveries in the provenience of resonance. As it started with Chladni’s sound figures in 1802 and closed with Röntgens X-Rays in 1895 the 19th century could likely be called the century of the frequency. Of course, in terms of Mathematics frequencies, oscillations, sinus-curves, periodical functions and so forth have been already around 1800 a sure inventory of analytical mechanics. Most of the work was done by Leonard Euler in Petersburg, whose Academy actually did advertise also the

legendary vocal-reward-question in 1779: “First. What is the nature and character of the sounds of the vowels A E I O U, so different from each other? - Secondly. Can an instrument be constructed like the vox humana pipes of the organ, which shall accurately express the sounds of the vowels?” The result was a price given to a guy named Kratzenstein, followed by the van Kempelen apparatus out of competition, its replication with Wheatstone, Helmholtz’ work on vocals and its misreading by Bell leading to the telephone apparatus.

The question of the voice may stem from the 18th century. In terms of frequency theories the definite answers were given already in the 19th century. However, this century of frequency has also been the century of the “Geist” (“spirit” as to translate the word rather insufficiently). In the 19th century “Geist” and frequency are closely related in a deep romantic resonance of an unerasable kind. The question was: What sticks behind all these ideas of frequency and their mathematical formulas Euler and Fourier had developed? What is the substance of all this? There had to be something which exists in a kind of ideal parallel to mathematics in nature itself. The name of this something came into course again around 1800. Hegel recites it in 1804 in Jena:

„Der Äther [also] durchdringt nicht [nur; W.H.] Alles, sondern er ist selbst Alles; denn er ist das Sein. Er hat nichts außer ihm und verändert sich nicht, denn er ist […] die flüssige und untrübbare Durchsichtigkeit. Dieses reine Wesen aber […] ist nur die schwangere Materie, welche als absolute Bewegung in sich die Gärung ist, die ihrer selbst als aller Wahrheit gewiß […] in sich und sich [selbst; W.H.] gleich bleibt.”

For Hegel “Geist” and being, “das reine Wesen”, spirit and ether are intermingled in a kind of psychophysical parallelity. In this dialectically woven unity the ether is defined as hard as diamonds, although at the same time invisible and fully transparent as the most abstract nothing. Nevertheless is has a weight, even a measurable one, as William Thomson affirmed it some decades later. But again, ether can let pass everything ponderable going through itself without any traces. Heinrich Hertz’ radiopapers in the late 1880ties are still conveying the huge efforts Hertz had to make to get to his radio waves fixed and reproduced, whilst being still

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deeply immersed in the magic circuit of the ether given by the contemporary physics in Germany, which couldn’t explain his given data.

In the light of this epistemological horizon of ether, frequency and “Geist” no one should be surprised that the voice as the most complex phenomenon of resonance has been understood as an object of psychophysical ideality as well. Focussing on continental Europe firstly Theodor Fechner (1801-1887) comes into sight, after him Wilhelm Wundt (1832-1920) and eventually Eduard Sievers (1850-1932). All three theoreticians have based their work deeply on the concept of psychophysical parallelism. Concerning the voice these theories predict, that in the physiological nature of the human body there is nothing vibrating, twitching or just happening, which is not automatically evoking a psychical reaction. And so vice versa: There are, so says Wundt, no psychical reactions whatsoever which are not correlated with a corporal expression. Not the expression of thoughts or the communication with the other, in the sense of Wundt and Fechner the expression of bodily motions alone should be the primordial reason for a vocal articulation. After 1855, when the Spanish opera singer Manuel Garcia has had invented the Laryngoskop, the chance had come to get deeper into the details of the voice-building organs in the pharynx than Helmholtz had ever done. Now the preconditions were given for the livelong experiments and explorations of the Phonetician Eduard Sievers mapping the whole complex process of sounding of the voice in every possible detail.

„Rhythmus und Melodie“ of a human talk, writes Sievers, „werden […] gleichzeitig durch gewisse sie begleitende und periodisch verlaufende innere Bewegungsvorgänge oder Bewegungsvorstellungen geregelt, die ich nach ihrer überwiegend häufigsten Form ... als innere Schwingungen bezeichnen will.“6 On the basis of this inner/outer parallelity Eduard Sievers rubricated any categories, groups and subgroups of vocality, as there are vocals and sonants, voiced and voiceless plosives, alveolar and palatal fricatives. For all of that Sievers defined ideal dimensions, which were again centered around our concept of resonance.

After having done so Sievers was ready for defining the standards normatively. In April 1898 he met with some leading theatre directors and the Germanist Theodor Siebs, for committing to a “regulation of pronounciation German

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on stages.” “Regelung der deutschen Bühnenaussprache”. The resulting book, shortly named „Deutsche Bühnenaussprache“, was from now on up to the 1960s more than a primer just for actors but predominantly conductive as the ultimate standard for any speaking where ever in the public, educating in schools. And of course for speaking in radio also as we will see in short.

With these important regulations the parallelistic episteme of the voice became politics. Its main parole from now on spells “Reinheit”, that is cleanness or pureness. However, in German, I should really say: “Rrreinheit.“ Because, the rule goes as this: „Es ist in allen Fällen durchaus das Zungenspitzen-r zu fordern; nur dadurch kann den schon sehr stark eingebürgerten Mißbräuchen begegnet werden, statt des r vor dem t ein ch zu sprechen (z. B. wachten statt warten, Pfochte statt Pforte) oder Wuam statt Wurm, oder Mutta statt Mutter.“

With „Reinheit“ which from now on has to be pronounced with a rolling “R” the episteme of resonance comes once again in the centre-point. To be pure in once own speaking meant to built clean and pure vocals, which are clean only if they are articulated in a proper resonance of the mouth and in the head-cavities gaining a state called “selftone” or “owntone”. As Siebs says it: „Für die Vokale kommt außer dem Stimmtone der Eigenton in Betracht. Die oberhalb des Kehlkopfes liegende Mundhöhle und bisweilen auch die Nasenhöhle, zusammen als Ansatzrohr bezeichnet, bilden für den im Kehlkopfe erzeugten Stimmtone einen Resonanzraum; er kann … die mannigfaltigsten Formen annehmen, und ihnen entsprechen die verschiedenartigen Eigentöne, die Klangfarben der einzelnen Vokale."

Pure vocals in the sense of Siebs can only be natural tone-resonances which are precisely measurable in terms of ideal physical mouth cavity states. In other words, as an expression of resonance voice has to be both individual and ideal at the same time. Everyone is doing his selftone vocals individually, but their scales are of absolute degrees as well. Voice as a mean of social relationship and communication was faded out completely. Such aspects came first into sight with Karl Bühler in the 1930th against the Wundt and Sievers tradition, and shifted from there to the linguistic school of Prague and later into the psychoanalytic school of Jacques Lacan.

II.

7 Siebs, Theodor: Deutsche Bühnenaussprache, 8. u. 9. Aufl., Berlin u.a.:1910, 60.
8 Ib. 25.
These politics of voice were already obligatory when the German radio started its broadcasting – nomen est omen – 1923 in the Voxhaus on Potsdamer Platz in Berlin. The book “Deutsche Bühnenaussprache” from 1900 was refined under the title “Deutsche Rundfunkaussprache” in 1931. But no one in the radio audience spoke likewise, except the great figures on the Reinhardt-stages as Josef Kainz, Alexander Moissi or Friedrich Kayssler, some gentle school teacher or some church clergyman in the cathedrals. In fact, in the Radio as the first electromagnetic medium the politics of the voice turned back into its own metaphysical circuit again. The ether as the essence of the absolute being bearing the extrasensory spirit of all the logics of frequencies was now thought as voicing through the radio.

„Die Funkwellen“, says Richard Kolb 1932, who was the most influencing theoretician of radio in the Weimar Republic, „die Funkwellen sind wie der geistige Strom, der die Welt durchflutet. Jeder von uns ist an ihn angeschlossen, jeder kann sich ihm öffnen, um von ihm die Gedanken zu empfangen, die die Welt bewegen. Der unendliche freie Geistesstrom trifft auf unseren kleinen, geschlossenen, mit Energien gespeisten und geladenen Denkkreis und versetzt ihn durch das feine Antennennetz unserer Nerven in Schwingung. […] Der unsichtbare geistige Strom aber, der vom Ursprung kommt und die Welt in Bewegung brachte, ist seinerseits in Schwingung versetzt, gerichtet und geleitet vom schöpferischen Wort, das am Anfang war und das den Erkenntniswillen seines Erzeugers in sich trägt.“

This man, Richard Kolb, was the ideological loadstar of radio from the early 1930s up to the 1970s in Germany. To his adherents we must count almost every important radio practitioner as for example Fritz Walter Bischoff, one of the most important radio play producers in Weimar and also Heinz Schwitzke, who had been head of the radio drama department in the Norddeutscher Rundfunk in the reconstruction era of the 1950s. Kolbs theory of the so called “bodyless essence of the voice” („körperlose Wesenheit der Stimme“) alleged that the radio could let the inner pureness of the voice rise again in the listeners mind. Broadcasting the voice, as Kolb says, can produce a special kind of meta-personality in the listeners mind “in the shape of bodyless beings” („in Gestalt körperloser Wesenheiten“). This idea Kolbs describes in the following: „Der über die Erde hinausgeschleuderte freie Strom der Funkwellen erhält die Modulation durch das vom Hörspieler erzeugte Wort, das

Sinn und Richtung durch den Dichter erhielt. Die elektrischen Wellen treffen den Menschen, gehen durch ihn hindurch, und es wäre nicht absurd zu denken, dass der Mensch Nerven hätte, die die Wellen unmittelbar aufnähmen und im Gehirn zur Wahrnehmung brächten."\textsuperscript{10}

As far as the German radio history is concerned the impact of these theories applied in practice turned against the medium itself. The medium did suffocate from the very beginning on. Radio in Germany didn’t start as and didn’t emerge a mass media in the first decades. It started as a “cultural instrument” as Hans Bredow defined it explicitly. No politics, no quarrelling of political parties, no real discussions were carried out in the program. The parliament even ignored the medium almost totally. The elevated radio-voices instead took lectures and readings well prepared and censored in advance. Whether street battles outside were raging or a minister was killed on the footpath, even if half of the Grunewald stood in flames, in the democracy of Weimar the radio remained silent to all of that. In my view the reason is an epistemological one, because the psychophysical politics of voice and its self-tone are non-party and trans-social politics. Of course, to emphasize the apoliticality of the voice was in itself of great political power. The first man who recognized this deep ambiguity was Goebbels in his legendary sentence written down in his diary in February 1933. “The Radio” says Goebbels “as an instrument of mass propaganda is not even appraised enough in its impact. Anyhow, our enemies didn’t know nothing to set up with it.”\textsuperscript{11}

Goebbels voice was a comparably bad one but on the radio he spoke always informally and live. In early 1933 one could hear him almost every day. He never rolled his “R”, whereas the “Führer” rolled his “Rs” all the more. “There Hitler, here reportage”\textsuperscript{12} writes Goebbels down in his diary. Not the explicitness of Hitlers speeches but the medial difference of the long radio announcements Goebbels did before Hitler spoke and the hotheaded tirades which would follow, these had been the packetized elements with which the Nazis took the masses on their side in early 1933.

But the orgy of the Führer-speeches didn’t last so long. In a radio studio Hitler couldn’t even articulate one understandable sentence. He never did a studio

\textsuperscript{10} Ib. 53.
\textsuperscript{12} 369.
recording. What Hitler obviously needed was never intended in the psychophysical theory of the voice. He needed the resonance of the other, in his case especially the resonance of a kind of a roaring mass. Yet in 1934 Goebbels who was in charge for the radio programming also, took almost all of the Führer-speeches out of the program and switched it over to “light music” which was one of his neological word formations.

III.

In contrast, a quick view on the US-American radio history seems to be more than justified. As radio in the US started as amateurish radio-telephony, the whole system is imprinted by a completely different voice politics. Not the resonance of the self, but the resonance of the other was epistemologically implemented into the medium from the first day on. Until today American Radio stations still have a call code as if they were sea-broadcasters called by coast stations: WABC, KWA, WEAF, KDKA, 8XK.

Because they were seen (and licensed) as a system of wireless telephony American radio stations had to broadcast for the first seven years over almost one single frequency. There were hundreds at the same time, seven hundred stations in 1925 – on each channel sounding different voices. The US radio from its beginning on far into the 1960s is characterized by an egregious polyphony and polyvoiced variety which never had existed in other regions of the worlds in these decades. From 1925 on the so called serials emerged. These are short-formed radio-plays on a daily repetition basis which later evolved into the daily soaps as we know them from TV. That happened when almost each an every radio program was shifted into television in the midst of the 1950s. Before that, 6000 different serials American old time radio collectors count for the period from 1925 to 1960, each serial containing dozens, hundreds and sometimes thousands of single episodes. In one of the biggest crisis of the American society, the great depression in the 1920s and 1930s, it has been the radio, which could held together the nation with its dialectal, multi-ethnic and polyphonic vocality. That is Susan Douglas’ point in her related studies and I agree to her.

„Amos „n’ Andy“ for example is the first und oldest serial in the history of the American radio, completely done in the colloquial language of the south, telling in hundreds of episodes the Immigration-way of two black Afro-Americans into their own country, from South to the North. It is done in the heaviest “black” Birmingham-Slang,
but all the way played, spoken and vocalized by two white man who play Amos and Andy. What we hear is a blackface comedy, a vocal slapstick so to say in the tradition of Vaudeville, mixed up with a huge betrayal of whites speaking as blacks. But apparently they spoke so perfectly that in the first 35 years not one antiracist petition (there were a few) could lessen the huge success of Amos and Andy.

In 1942 Rudolf Arnheim has analyzed in a study for Lazarsfeld over 45 serials daily broadcasted in New York, all featuring vocally simulated personalities. The huge success of these serials has a simple reason: In a land of immigrants everyone sounds like a stranger in his own country. Therefore radio voices reproducing this situation are able to develop what anthropologists might call the “pathic function” of communion. The pathic function of the voice, which Malinowski first had worked out in his trobriandian studies\footnote{Malinowski, Bronislaw: The Problem Of Meaning In Primitive Languages, In: Ogden, C.K.: The meaning of meaning. A Study Of The Influence Of Language Upon Thought And Of The Science Of Symbolism, London: Routledge & KeganPaul 1956, 296-336.} and was later refined by Jacobson and Lacan, contains the most important aspect of the voice as we face it in the radio.

The crucial point seems to be, that the multicoloured ventriloquism of voices in American did accomplish a politics of voices which certainly cheated the listeners with simulation and pretense but never gave them more or less than they expected. The American radio history is full of thousands of vocal personalities acting like imposters who pretend to use their voice for creating a new ego. But as we all know achieving an ego or even becoming a nation seems to be always a failing process which nevertheless is a must and brings forth social and in this case medial structures with sustaining formality. The impact of the famous period of radio-serials didn’t change so much when the serial heroes where replaced by the Deejay in the 1950s from Alan Freed to Wolfman Jack. Here we hear, as Michelle Hilmes stated it, the radio voices as mutated into totem animals.

The simulation of vocal personalities in radio works so well because the listeners dissimulate the radio-simulation and in doing so admit and reproduce the medial structure they are subjected. The reason for that is not stupidity. I would suggest that it works because as radio listeners we are simply not seeking, as Sievers or Sieb said, our self-tone(“Eigenton”). By the way, who has ever heard his or her own self-toning voice recorded the first time will remember the kind of chock listening to this kind of one self. What we have learned about the voice through the
media of the voice in the 20th century is: Vocalized speaking seems to be yet always like a quest for the own voice but this search operates in the mode of desiring the voice of the other who’s voice is addressing me. Insofar Karl Bühler is completely right when he said that a vocal expression is always a phenomenon of resonance and a reproduction of experience of resonances. This desire to ‘have the voice’ remains always unsteady because a fulfilment of this desire will never happen. This desire is insatiable.

The extraordinary polyphonic variety of Dee Jays and serial Heroes in American radio can teach us to what extend the search for the voice of the other is rooted in the un-perceptibility of the own voice. Everyone does easily surrender to the enjoyment being very deeply betrayed and misled by other voices. Only those fail who are not deceived, Lacan once said. This is very true especially in regard to all those voices to which we surrender in fascination.

But – coming to the very last point, vocal politics like these didn’t make the big money even not in the US-American radio business. In the Midst of the 1970s the music industry took over the command. For the music companies radio-programs are nothing more than intelligent amplifiers of consumption. Very successful, one has to say, because they triplicated their sales figures twice in thirty years. But to strengthen that process the irritating variety of ventriloquism of thousands of American deejays had to be expelled. 80 percent of the Americans still listen two and a half hours to radio. 80 Percent of the thirteen thousand stations in the USA are playing mostly music. That is all comparable to Germany of today. Very rarely a voice is uttering and the programs sound so similar that tuning to another station almost doesn’t make sense. Today we face the paradox, that in radio an almost voice-free environment can satisfy the radiophonic desire to the pathetic communion with a voice well enough. The logic of the voices in Radio works most likely as the mechanisms of advertising operate even if there is no advertising spot on the air: Radio in itself proposes something from which everyone knows that the opposite is meant or the main thing is missing. Theoreticians of system theories could say: radio is a system getting its stability out of the weakest resonances. As for the most radio stations in Europe or America this seems to be the case.