

# **Emerging from the Noise: Non-Nostalgia, Reactivation and Appropriation**

**J. Milo Taylor, George Brock-Nannestad, Dirk Specht**

**Kunsthochschule für Medien Köln**

**milo@suborg.net, pattac@image.dk, dsp@khm.de**

## **Abstract**

This paper approaches noise from a media an archeological paradigm closely informed by Siegfried Zielinski's notion of "deep media time". The observation that noise is not absolute, but is variable is somewhat banal; yet if the temporal, methodological and aesthetic scope is extended beyond the conventional discourses around noise what implications for practice may be drawn?

The origins of the paper derive from a research fellowship undertaken at the *Kunsthochschule für Medien Köln* which dealt with sound, noise and listening as practice-based research methodologies. A selection of discarded shellac records (cultural noise) forms the material basis of this study. This media detritus contains program material created during a problematic yet arbitrary period of Cologne's past (1929-62 – this period defined simply by the contingent array of shellacs found). These discs also offer today's listeners traces and scars of the damage and decay these traumatised objects have experienced in their lifetime.

These material artefacts are noisy in many regards: a conventional approach to archiving or preserving these might involve media migration into the digital domain after which processes of "noise-cleaning" may be undertaken. Such cleaning may aim to remove "noise" from "signal". Yet how is such difference established? There are plentiful examples of problematic media cleansing – and a central issue explored in this paper is this distinction between what the authors frame as "primary" and "secondary" information.

Hence, issues around the context and techniques used during the original recording (e.g. frequency transfer functions), the means by which this recording is produced as a capitalist object (e.g. post-emphasis curves), and the subsequent unintended inscriptions upon the media surface in the course of the objects' biography (e.g. careless handling) provide a deep media perspective upon the noisy media object.

MANUFACTURING DEFECTS

MECHANICAL RECORDS

CUTTING THE ORIGINAL MASTER  
MASTERING

PRESSING COMMERCIAL RECORDS  
REDUCTION OF NON-LINEAR DISTORTION

# THE CONCEPT OF INFORMATION

Reissues of analogue recordings, commercial and to a certain extent scientific, perform in many cases, background noises are removed based on different statistical properties of However, the models of the noise sources are often simplistic and based more on noise being a simple function of the intended signal to remove noises without touching computational expedience than on characteristic features derived from the mechanism components of the intended signal the present paper provides an insight into the mechanisms for noise generation.

hum and its harmonics from DC generation by internal power supply

hum and its harmonics via mains leads (from other loads on same line)

electromagnetically and electrostatically induced electrical noises

wow due to ellipticity

graphite noise (particles establishing a conductive surface)

coloured cutting noise

noise from scratches (repeated clicks)

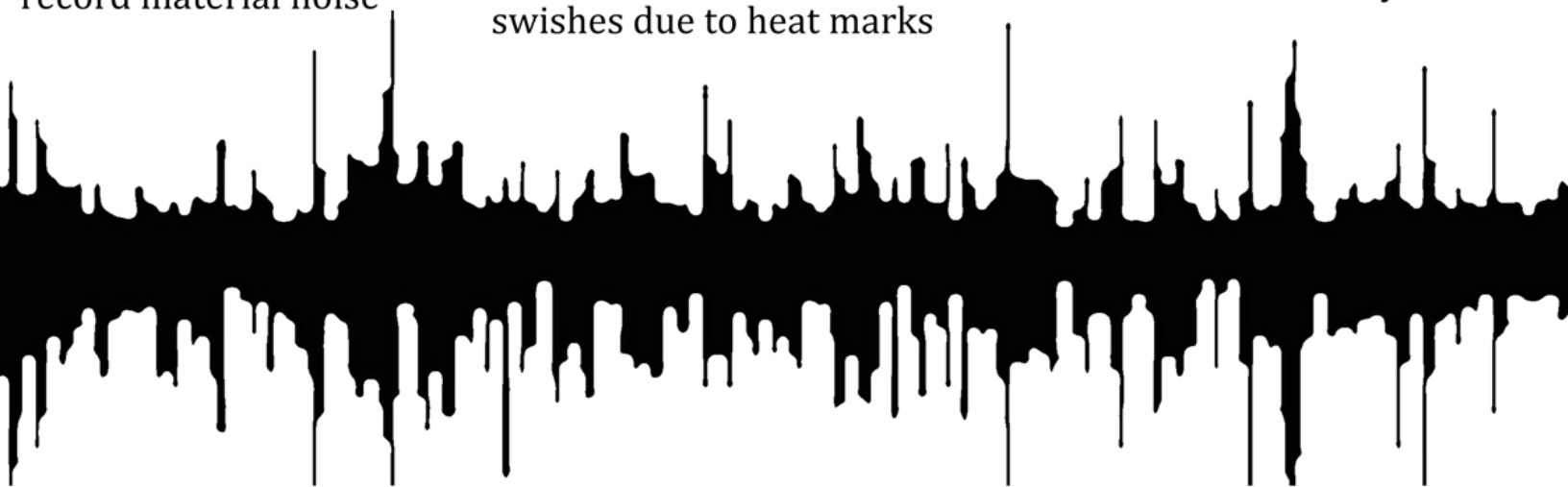
clicks (singular events, due to particles or gouges)

gear meshing noise

record material noise

swishes due to heat marks

swishes due to humidity marks



clicks due to punch-through or tears (separation of metals)

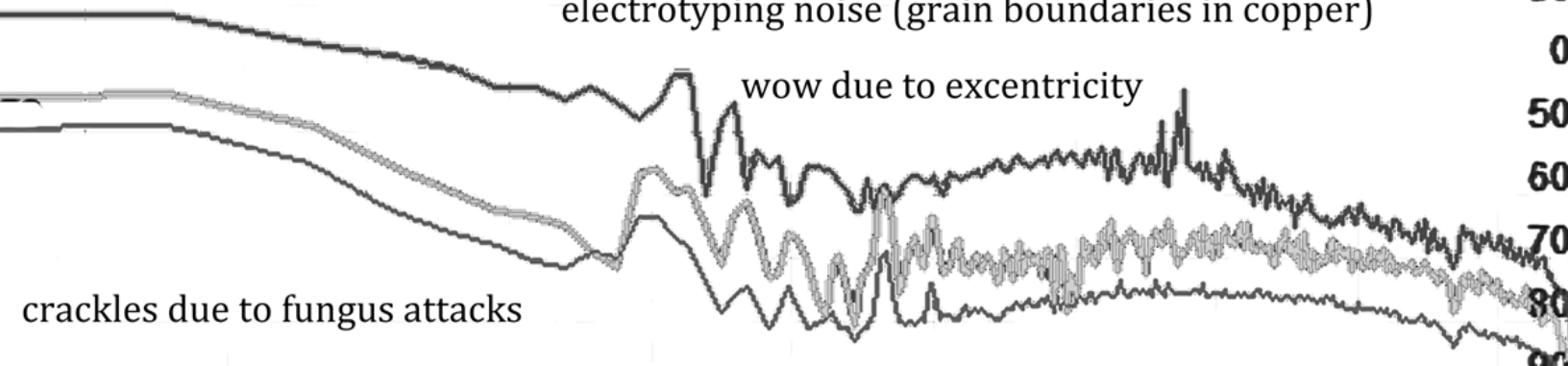
hiss due to extended surface damage

“banjo” effect on transients

rumble (bearings, vibrations)

electrotyping noise (grain boundaries in copper)

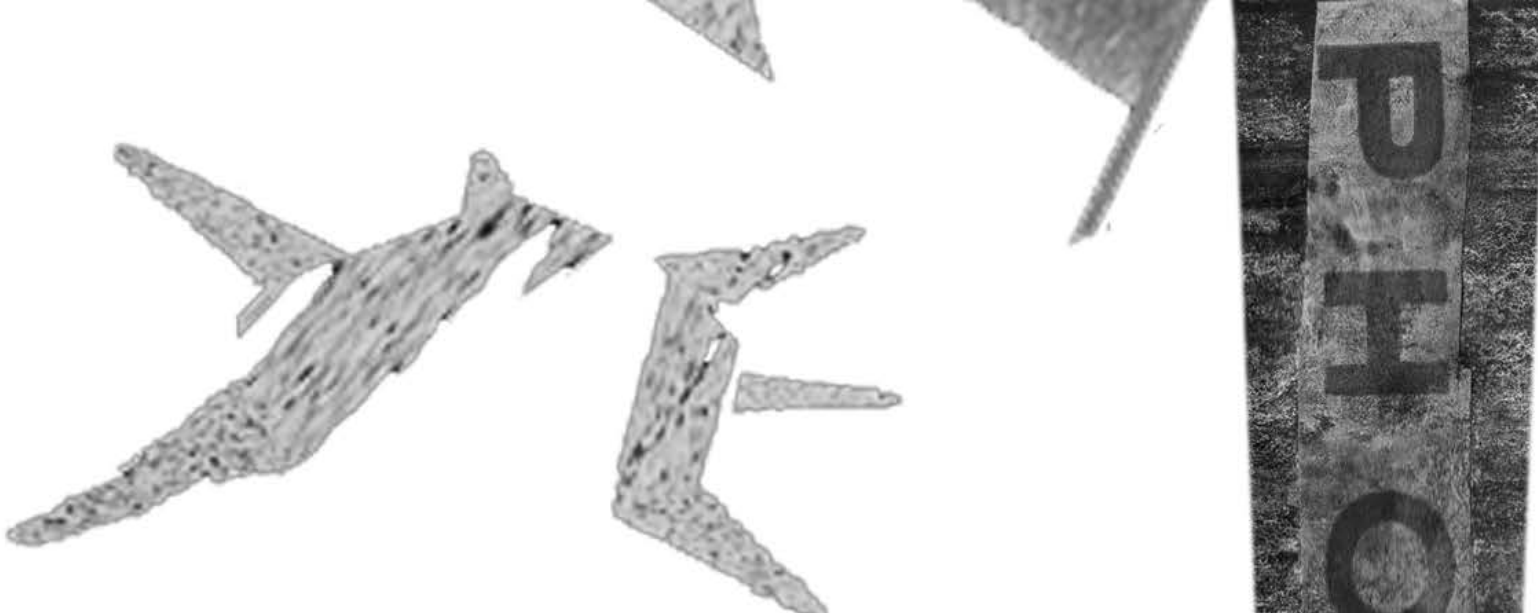
wow due to excentricity



crackles due to fungus attacks

wow due to warp (bumps)

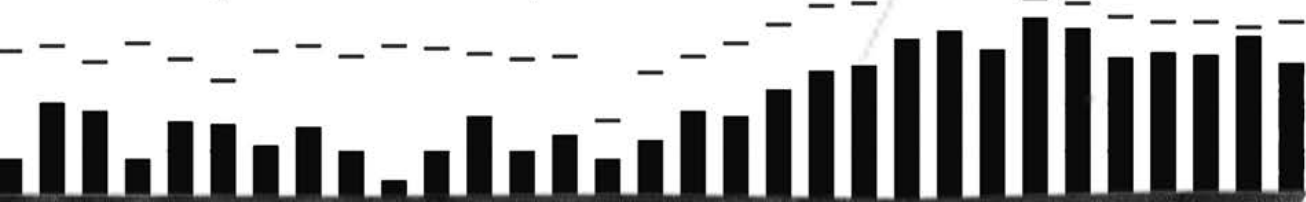
swishes due to polishing of separation clicks



vibrations were transmitted and amplified by resonance at the location of the wax shaving machine, so that the apparently flat wax blanks had a vertical modulation at 60 Hz impressed on them.



To the degree that it is noise that we want to exploit, perhaps those few words of Sterne are really the central issue - "the grain of the apparatus"



*Musikgerät*

electrical noises

ageing itself

pressing faults

tape squeal

environmental influence of use and storage

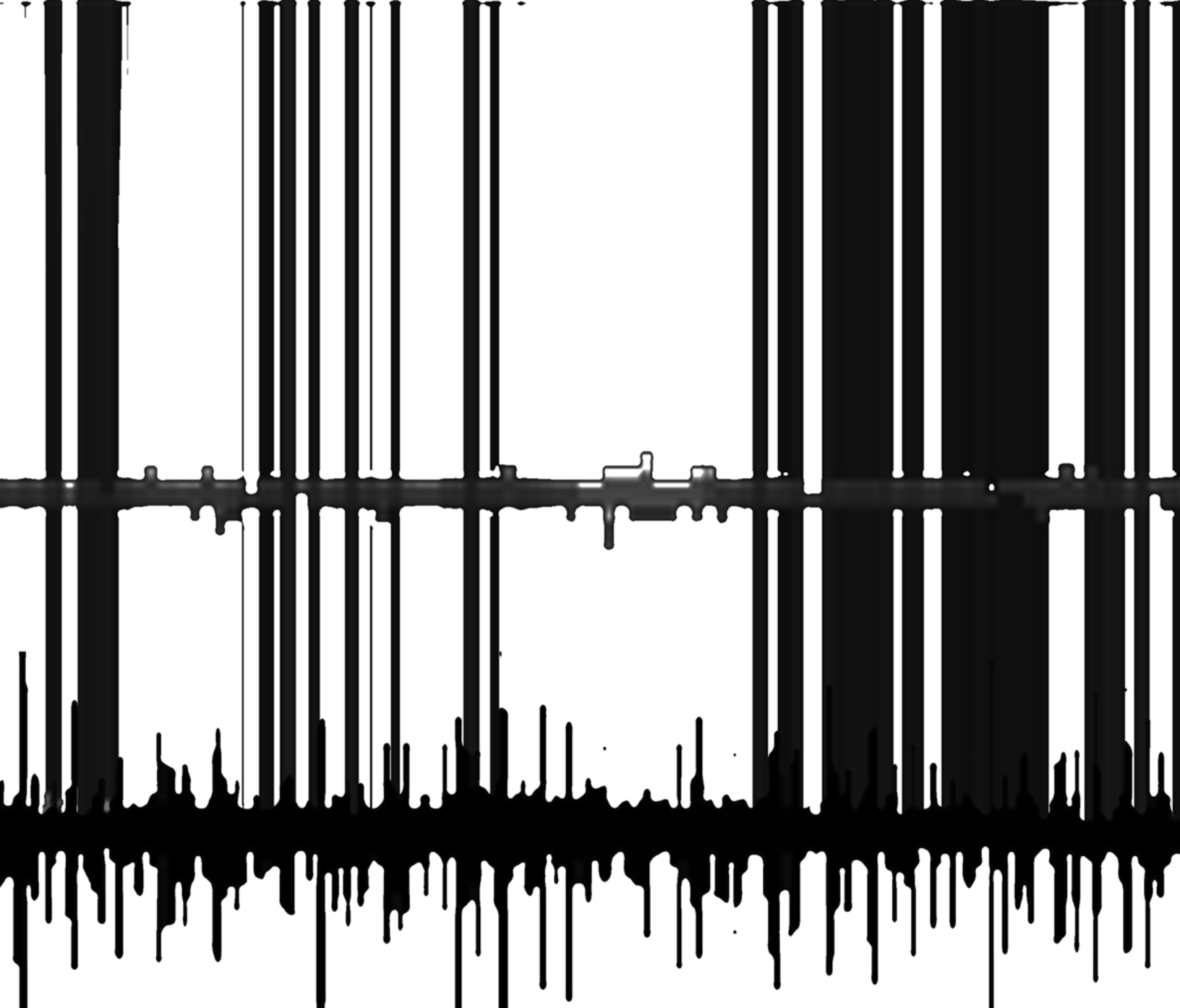
Recommended Sizes	Conical Truncated	Elliptical Truncated
Pre 1920	.0040" (90 microns)	.0040 x .0012"
1920 - 1939	.0035" (80 microns)	.0035 x .0012"
1939 - 1966	.0028" (65 microns)	.0028 x .0009"



- distortion on high-level passages
- distortion due to repeated play using resonant pickup

vertical vibrations visible as wheelspokes





announcement of artist, company

collision with horn

environmental noises (airborne)

rumble (structure-borne)

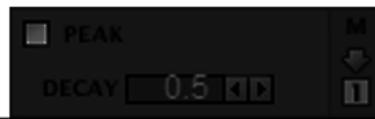
cutting noise due to bad cut

exaggerated instrument noises

spaciousness

tuning pitch

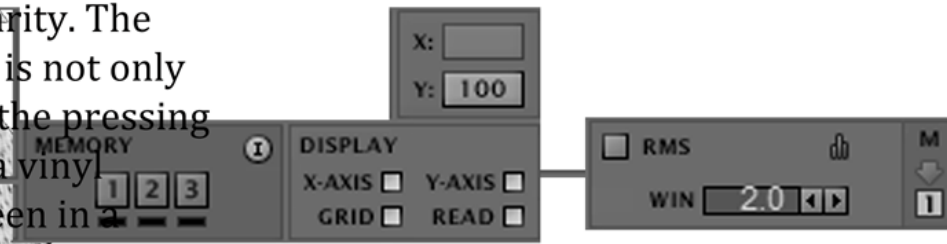
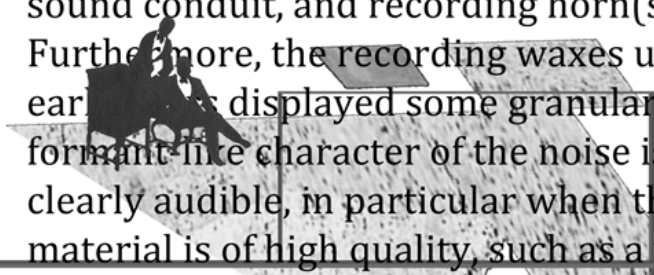
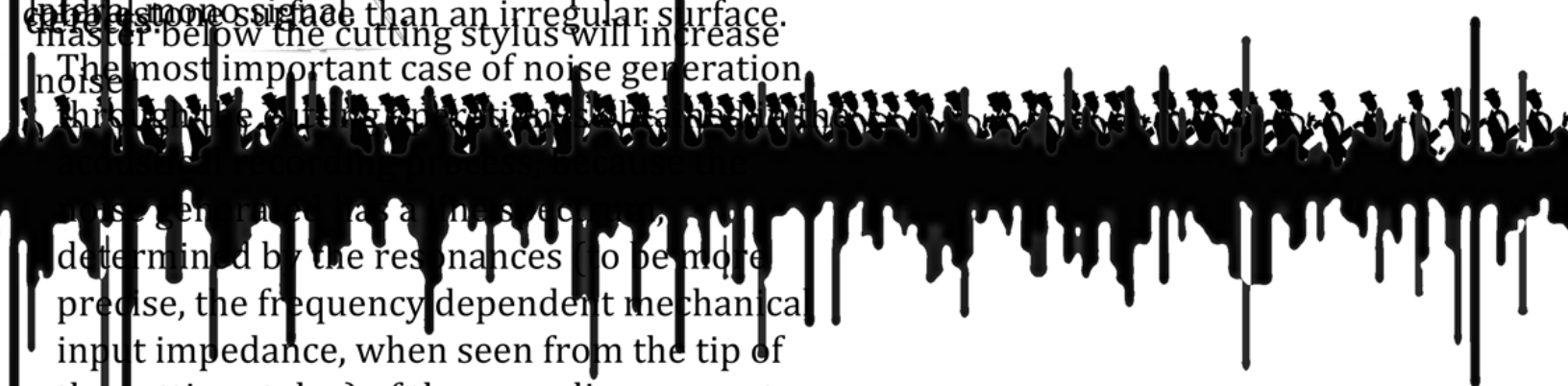
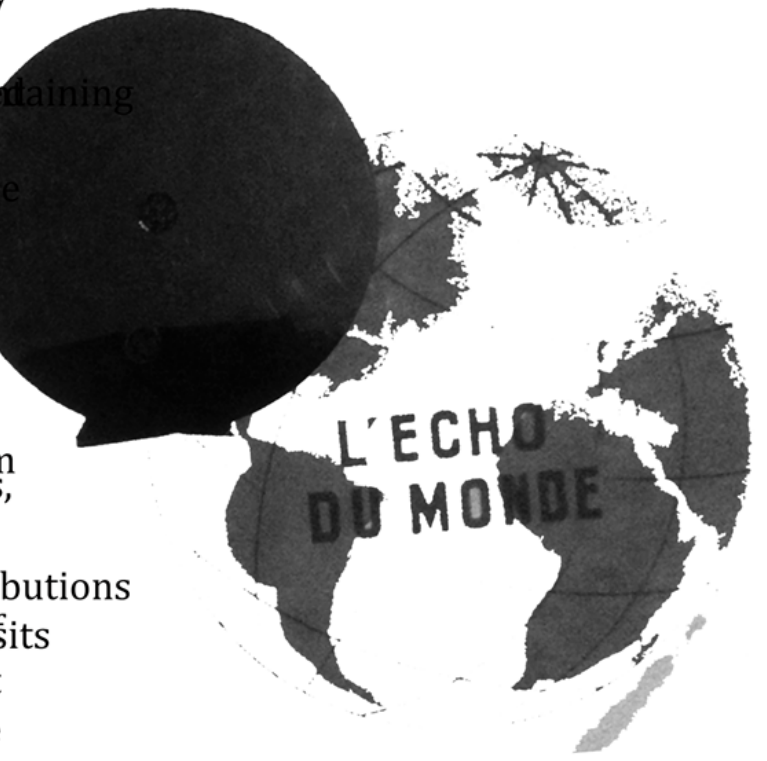
base material  
unreflected  
edge modulation  
recording layer material  
bands (separate recordings)  
spiral handedness  
groove dimensions  
thickness of cutting stylus



*„Aber nicht versaufen!“*

The quality of the frequency noise which is  
very low level of factory of a possible to be  
and the high level of a possible to be  
raising of (Herald) of a possible to be  
which is a possible to be  
The cutting operation is a lathe operation in  
which swarf (chips in US terminology) is cut  
out of the workpiece. The separation stresses  
the material and the cutting tool (cutting  
stylus), and if the mechanical impedance is  
low, the cutting stylus will be given a  
movement due to the shower of impulses from  
the yielding material. This movement may be  
heard during cutting, and it is also impressed  
on the recording as cutting noise. The hot  
stylus technique and the burnishing facets on  
the cutting stylus reduce the cutting noise. A  
worn cutting stylus, incorrect cutting angles  
with respect to the cutting properties of the  
master material and the linear speed of the  
master below the cutting stylus will increase  
noise.

The most important case of noise generation  
is determined by the resonances (to be more  
precise, the frequency dependent mechanical  
input impedance, when seen from the tip of  
the cutting stylus) of the recording apparatus  
consisting of stylus bar, diaphragm, soundbox,  
sound conduit, and recording horn(s).  
Furthermore, the recording waxes used in the  
ear have displayed some granularity. The  
formant-like character of the noise is not only  
clearly audible, in particular when the pressing  
material is of high quality, such as a vinyl  
compound, it is also clearly to be seen in  
long-term average spectrum (LTAS).  
However, it goes undetected if the time of  
integration is too brief. The value of this  
secondary information cannot be  
overestimated.





# Brock-Nannestad, G. (2001) What Are The Sources Of The Noises We Remove?

## AES Conference: 20th International Conference

Archiving, Restoration, and New Methods of Recording (October 2001).

MAX BAND LEVEL RANGE 20 20 -23.4 TH -10.0

- 1.) Karl Reich: Volkslieder. (Dreistimmung, harmonisch umsungen von Nachtigall-Edelkanarien der Zucht)  
ELECTROLA E.G. 855 8-49269. Germany.
- 2.) Adalbert Lutter mit seinen Tanzorchester: Rhythmus der Freunde (Here's a New World).  
Telefunken Bestell.Nr 6359 22016. Braun shellac. 1937. Germany.
- 3.) De Vries Trends in Amplification: Vol. 10 Nr. 2. Berlin: ICH 6782.  
ELECTROLA E.G. 223 00A/1923 reth. ORA 1924 of 1937. is Germany move?
- 4.) Byarr Gros. re 20 Danzorchester. Für ein paar Stunden hast du mich glücklich gemacht.  
TELEFUNKEN A 919 21968. Germany.
- 5.) Zarah Leander & Warner Müller mit dem BIAS Tanzorchester. Berlin: Eine Frau in meinen Jahren.  
POLYDOR. 48871 B. Germany.
- 6.) Cox (L. 111) Beyond Representation and Signification: Toward a Sonic Materialism. Journal of Visual Culture. Vol 10(2): 145-151
- 7.) Harry Roy & his Orchestra: The Merry-go-Round Broke Down
- 8.) ...  
8.) ...  
DARGUES 078014620. France.
- 9.) ...  
ELECTROLA E.G. 3807. ORA 1596. 1937. Germany.
- 10.) De Groot und Edward O'Henry: Ave Maria.  
ELECTROLA. E.G. 2012 30-3824. Germany.
- 11.) Jaqueline François mit Joe Boyer u.s. Orchestor: Mélancolie.  
BRUNSWICK. 82451 A. 1956. France.
- 12.) Dizzy Gillespie & his Orchestra: Cubana Bop.  
ELECTROLA. EG 7779 D7 UB 2934. Germany.
- 13.) Willy Breuser und die Kölsche Rabaue: Och wat wor dat früher schön doch en Colonia.  
KRISTALL. Bestell.Nr 9113 C 9718,1. Germany.
- 14.) Staats and Dom Chor (unter Lietung von Professor Hugo Rüdel): Licht von Herrn.  
ELECTROLA. E.G. 223. 8-44750. Germany.
- 15.) Harry Roy & his Orchestra: I'm gonna kiss myself Goodbye.  
ODEON. 0-31198a. 1937. England.
- 16.) Bassiak et Jeanne Moreau: Le Tourbillon.  
Dialogue overdub. DISQUES PYRAL. France

X-Crackle

IXL Spectrum Analyzer 1ch/1-Audio

Grungelizer/1-Audio

