A Preliminary Study of the Orderliness of University Student Note-Taking Practices[1]

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Abstract

Note-taking is an ordinary, common student practice at universities, which is rapidly changing under the influx of electronic technologies for recording and storing audio and visual educational materials. However, little attention has been paid to the actual organization of note-taking. This chapter presents an ethnomethodological study of the real-world orderliness of note-taking. It shows that note-taking is a collaborative production of teachers and students: students take into account the details of teacher's speech and gestures while teachers adjust their lecturing activities to the visible actions of note-taking students. The analysis, based primarily on the data from lectures for undergraduate students in a Russian university, shows that note-taking practices are interwoven into the choreography of classroom interaction, the local history of student learning, and the knowledge certification practices at universities. The preliminary description of the details of local material practices of note production and usage lays the foundation for the analysis of note-taking as a routinely organized and organizational situated activity.

Keywords

note-taking, ethnomethodology, university education, classroom interaction, knowledge transfer

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1   Introduction: Notes as a Master-Piece

In this paper I present some elements of the program of studies and some findings concerning note-taking practices at universities. Notes are a ubiquitous feature of ordinary university activities, which constitute not only a natural way of knowledge preservation and transfer, but also a vivid manifestation of the difficulty that every teacher faces: how to deliver knowledge if there are student activities that unavoidably "refract" it.

The recent increase of electronic devices used by students and teachers at universities brings note-taking practices to the fore. Teachers can now present their lectures using PowerPoint, Keynote or other such software and provide these presentations for their students before or after lectures. Students can use laptops, tablets, or smartphones to take notes and exchange them with other students. Students can also use audio- and even video-recorders to preserve lectures. All this creates organizational pressure on university note-taking practices and makes them a subject for scholarly scrutiny. Unfortunately, the main focus of such studies is the effectiveness of different forms of note-taking[2]. What is "better": to take notes on paper or in an electronic format? And why? To answer these questions, investigators use sophisticated (mostly experimental) research strategies which have a common "blind spot": they neglect the actual ordinariness of note-taking practices and use them as a resource for observations and analysis. For example, in a much cited paper by Mueller and Oppenheimer (2014, p. 2), the authors say, "Laptop use facilitates verbatim transcription of lecture content because most students can type significantly faster than they can write" and use this statement both as a guide for their experimental design and as the grounds for interpreting their findings. What this statement misses is *what* "verbatim" consists of in the actual organizational circumstances of university note-taking. To say that we should study the "natural variation in the amount of verbatim overlap (i.e., the amount of text in common between a lecture and students' notes on that lecture)" (Ibid.), the researcher must first impoverish lecturing, turning it into a string of words that can be juxtaposed with the string of notes. This deprives both the lectures and the notes of their natural orderliness, that is, their actual material form and the organized local practices of which they are inseparable parts. If we look at the notes as a situated achievement, we can see that "verbatim", as the "amount of text in common between a lecture and students' notes on that lecture," is never achieved in practice. Students always *format* the teacher's words in specific ways depending on the teacher's intonation,

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2   See, for example, Michael C. Friedman's (2014) review of the studies of students' note-taking practices.

gestures, pauses, the behavior of other students in the room, the previous course of note-taking, the thematic organization of this particular lecture, and the overall structure of *this* course taught by *this* teacher.

To understand how the adoption of electronic note-taking tools influences university practices in the classroom we need to look closely at the actual behavior of the teachers and students *in situ*.[3] In this paper, I outline some directions in which we can look, how we can do it, and what results we can attain. It is not a comprehensive study of note-taking. I provide some *hints* concerning the natural analyzability and accountability of note-taking practices. Nevertheless, I will try to do so in a systematic manner.

My perspective is ethnomethodological. In my judgement, the main achievement of ethnomethodology is the empirical demonstration that every social action, including note-taking, as a "master-piece". The *Oxford English Dictionary* defines "master-piece" as a "piece of work by which a craftsman gained from his guild the recognized rank of 'master'". If we assume that every social action presupposes a mastery of natural language and natural skills, that is, the ability to orderly organize ordinary settings and interactions, and must be recognized as such by any competent other, it is possible to view everyday social action as a "master-piece". This master-piece is used to demonstrate its "author's" mastery, but "author" here does not show his/her own *personal* qualities. He/she has to act as a "craftsman", i.e. as an ordinary member of society who knows the practical circumstances of common sense social situations and is able to recognizably produce them.

Ethnomethodology, as a catalog of the studies of social order, takes this "master-pieceful" character of social action as a subject for investigation. The main aim of such an investigation is to describe how this mastery is achieved and recognized in real-world settings. The orderliness of social action, viewed ethnomethodologically, can be called, following Anne Rawls (2009), "constitutive". This is the order that can be discovered in the actions themselves and that constitutes and is constituted by the actions as an observable phenomenon. In contrast to the conventional idea of social order as something hidden *behind* actions, ethnomethodology suggests that order is *in* actions and therefore can be viewed only from *within* these actions. This presupposes that instead of the general notion (and requirement) of the gener-

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3   The predominant approach to note-taking studies is cognitivist (the exemplar review is: Jansen et al. 2017; see also Kodaira 2017 and Piolat et al. 2005). There are very few detailed naturalistic, let alone ethnomethodological, studies of note-taking practices. The single example of ethnomethodological descriptions of university note-taking, that I know of, is several (very interesting) pages in Eric Livingston's unpublished manuscript *The Ordinary Society* (1997) (I would like to thank Tanya Tyagunova for drawing my attention to this work).

alizability of our descriptions, we can start from the notion of the "detailizability" of descriptions. Every description must not only be detailed enough to catch the specific (constitutive) properties of the studied practice, but its reader also has to be able to see and produce his/her own details while looking at his/her own studied practice with this description at hand.

But how can we study this constitutive order? Because such an order, as Livingston (2008b) shows, is irremediably concrete and domain-specific, we can discover, and create a detailed description of, it not as a general order with such and such properties, but as a mundane order produced and maintained in very specific ways. Therefore, this paper applies ethnomethodological research policies to discover the natural analyzability of university student note-taking practices. I show that the constitutive orderliness of note-taking practices is an observable phenomenon that can only be discovered through the close study of actual note-taking activities in the classroom and of the organization of the notes themselves. This helps me to show that actual live note-taking practice is not a background educational activity that serves only an instrumental purpose: the transfer of knowledge. Knowledge can be specified as an observable phenomenon available for all participants *in* and *as of* the actual situations of note-taking.

This study is predominantly ethnographic in character. The core data are the video-recordings (made in 2018) of two lectures in sociology for undergraduate students in a Russian university: a lecture on the history of sociology for 1st-year sociology students and a lecture on the sociology of organizations for 3rd-year sociology students. Lectures were in Russian. The recordings were made to capture live note-taking. I also gathered the notes (by photographing them) from the students who attended these lectures to compare them with the actual words of the teachers. The notes were both on paper and on tablets. These data are supplemented by my collection of notes from different people that I have been aggregating for several years and by my personal experience as a student and as a teacher. I have also had occasional conversations about note-taking practices with students and colleagues.

The character of the data used in this study shows that it is limited in scope. It focuses on a social science as this is the domain I am most competent in. This competence allows me to follow the natural orderliness of note-taking practices when I listen to a teacher on-site and when I examine the video-recordings and the contents of the notes off-site. I had made several attempts to attend and take notes of the lectures in natural sciences (physics and mathematics) only to discover that I could not follow the teacher as he/she was lecturing and therefore could not understand the students' work in formatting the teacher's words.

I start with a description of the general aspects of university education in Russia to make the reader more familiar with the organizational oecumene of the practices I analyze.

2   General Clarifications Concerning Russian Universities

The lecture is one of the major forms of teaching in Russian universities (although the situation is changing, especially in "advanced" universities). Lectures usually take place in classrooms of different sizes. The size of the audience varies from couple of students to several hundreds, but lecturer is usually one. At the end of each course students have a written or oral examination. In most cases the teacher who teaches the course grades the final essays or oral exam answers. The academic year is divided into two semesters and/or four modules. Exams are taken at the end of each. Along with mandatory courses students have elective ones.

If you come into a Russian university classroom in the middle of the lecture for undergraduate students, you will see the familiar picture that can be seen in most universities around the world: teacher is speaking and students are taking notes. The sound coming from students is mostly the rustle of the paper, not the clicks of the keys, but this is changing rapidly today. Russian students increasingly rely on the tablets, laptops, and audio-recorders. In what follows I will focus on how the mundanity of note-taking is produced in Russian universities. I do not view this mundanity as culture-dependent. Quite the opposite, I regard it as a part of "being student", that is, of the activities related to the organizational tasks and organizational circumstances that any student faces.

Before we start, there are two more notifications. Firstly, I do not pay particular attention to the differences between paper and electronic notes. I will discuss these differences but only as a part of the analysis of the concrete practical circumstances of note-taking. Secondly, I call the person who reads the lecture the "teacher" in-dependent of his/her academic rank.

Now we are ready to rummage through actual note-taking practices.

3   Organizational Features of Note-Taking Practices

We start with a description of note-taking as an organized endeavor. Which organizational things constitute note-taking? Let us call the work that students do with

teacher's words "recording". In the course of note-taking during university lectures the *speed of recording* and the *selection what to record* are of primary import. Both are ordinary, routine activities of the local production cohort that consists of the students and the teacher. Quick recording is provided for by the speed of moving the hand or fingers and use of abbreviations and symbols. For paper notes and for electronic notes the speed of the hand is quite different: students that use tablets or laptops are able to type larger amounts of text, but that does not mean that faster computer note-taking makes the resulting notes more "verbatim". Students still have to *format* teacher's speech. The quickness of note-taking has a relative character because students do not just move their hands. They seek to keep pace with what is said or put on the board. They do not write down everything. Even when they take notes on tablets or laptops, it is impossible for them to record all teacher's words as they are uttered. Students do not write down what the teacher utters. Students write down *lecture*, and this forces them to search for what is to be recorded among what the teacher says.

Choosing what to write down is a socially ordered phenomenon that consists of hearing the teacher's utterances as sayings-on-*this*-topic. At the beginning of each class teacher usually declares the general topic which is unanimously present in the notes. The topic can also be indicated on the first slide of a presentation, and in this case students write it down as fast as it appears. They orient themselves to the first statements of the teacher or the first slide as the possible topic-declaration. But there is also the topical organization of the lecture itself. The teacher shifts from topic to topic, often indicating the shift by pause or direct statements ("The next thing we need to talk about is…").

The topical organization of notes is the prevailing phenomenon embodied in the concrete details of listening. For students, the current topic is the background of the sounded sequences of teacher's utterances which allows students to hear his/her words as statements-on-the-topic or digressions-from-the-topic. Students do *not* evaluate each remark of the teacher in relation to general topic. Rather, they keep track of teacher's doings to find in them what is topical and what is not. For example, in one of my cases the teacher started the class by providing on the slide the general topic of the lecture both in Russian and English. She then spent some time explaining why it was in two languages and why she will "double" all the terminology in this way during the lecture. But students brought into their notes only Russian/English general topic. Students somehow knew that the "explanation" in not part of the topic and should not be written down.

To make the work of listening-for-note-taking more salient let us consider a fragment of data. Here is the piece of the transcription[4] of a teacher's talk and the corresponding place in the electronic notes of a student:

Teacher's talk:	Student's notes:
And here is the exchange theory, right?, this is another of the alternatives that appeared in postwar sociology. (0.5) huh:: (0.9) Alternatives to what? To this very domina::nt sociological main↑stream (0.5) the structural functionalism, first of all. Therefore it is not surprising that fo::r George Caspert- Casper Homans, who in fact has proposed the <u>first</u> (0.3) right? (0.5) worked-out=huh <u>ver</u>sion of (0.7) huh: (1.3) *such* a <u>special</u> (.) ex↑change theory, right?, built (0.6) >special theory built on the concept of exchange< huh: for hi:m this starting negative point was Parsons. (0.4) I will return to this later. (2.0) A:::nd the basic=huh::: (0.5) idea, a kind of frame or <u>core</u> idea underlying this kind of theorizing is an attempt (0.4) huh: to interpret human connections USING THE NOTION OF EXCHANGE. (0.8) The notion of exchange <u>was not</u> new to sociology, exchange somehow figured in different sociological a=huh::: theories=a::nd (0.6) huh:: i:n (1.7) other kinds of theorizing not re<u>lat</u>ed to sociology.	Exchange theory is another of the alternatives to the dominant mainstream, structural functionalism. The negative starting point for them was Parsons. The notion of exchange was not new to sociology.

This fragment clearly shows that notes are collaborative productions. Student chooses what is relevant for the current topic (and decides what the topic is) using the teacher's words as an instruction. Teacher uses intonation, stress, and pauses to direct student's attention to the relevant phrases and words (see, for example, the work that teacher is doing with the "notion of exchange"). But the student does not simply "follow" the teacher. He formats teacher's words: changes their order (from "starting negative point" to "negative starting point"), dismiss something ("special theory built on the concept of exchange"), and add something ("for them"). The result is a coherent text that records the teacher's words and, at the same time, covers the particular topic: the exchange theory. The student observes when the

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4   For transcription I used slightly modified Jefferson's (2004) notation system. Equal signs indicate no break or gap; numbers in parentheses indicate elapsed time by tenths of seconds; underscoring indicates stress (e.g. via pitch or amplitude); colons indicate prolongation of the immediately prior sound; arrows indicate shifts into especially high or low pitch; upper case indicates especially loud sounds relative to the surrounding talk; asterisks bracketing an utterance or utterance-part indicates that the sounds are softer than the surrounding talk; right/left carats bracketing an utterance or utterance-part indicate that the bracketed material is speeded up, compared to the surrounding talk.

teacher repeats something (for example, the name of George Casper Homans was written on the whiteboard at the beginning of the lecture), when he is making an aside ("I will return to this later"), or when he is stating the same thing in different way ("The notion of exchange was not new to sociology, exchange somehow figured in different sociological theories"). These organizational objects are *there*, in the teacher's speech. They are not in the student's eye (and ear). They are accessible as heard by the student and produced by the teacher, and this hearing and production are the two inseparable sides of a single educational practice.

Note-taking during a lecture involves the observable alternation of *writing* and *listening* by students. Cases when notes are taken unceasingly from the beginning to the end of the lecture are rare.[5] During both periods students listen to the teacher, but while writing they can face specific practical troubles that are absent during "pure" listening, such as: can't keep the pace, missed the piece, did not catch what was said, don't know the word. While listening they orient to the moments "when I have to start writing". This "have to" is entirely a local accomplishment of the local cohort, and the troubles arising are natural, normal troubles which are resolved through the direct address to other students or the teacher, through consultation with teacher's speech or the notes of a neighbor, or through the observation of the features of teacher's and students' conduct. Teachers who read their lecture too quickly so that students are not able to write it down may face deliberate not-taking-notes when students demonstratively throw the pen down on the table, or shake a hand to show that they get tired, or loudly express their complaint. The pace of the recording and the tempo of speech should be concerted, but not necessarily identical. As the teacher can change the pace and intonational profile of his/her utterances, so the student can change the speed of recording by starting to use more abbreviations or changing handwriting style (in the process of reading paper notes the places where students start to write faster are easily distinguishable: handwriting becomes shaky, jumpy, and more sloped), therefore the teacher and students can efficiently tune into each other's educational activities.

In the process of writing, a student visibly directs his/her gaze to the paper or computer keyboard. When writing on paper students also bend forward. In any audience and at any lecture it is possible to see how students simultaneously bend forward to their note-books and start to write and then simultaneously sit back

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5   They are rare during sociology lectures. On the contrary, mathematics lectures request from students to write down everything that teacher says or does on the board. During lectures on mathematics the board space is a space of accomplishment of mathematical operations, with their visible sequence being both *doing* mathematics and *teaching* mathematics for note-taking students.

up. Sometimes they do this as one[6]. Such synchronicity is an observable feature of a lecture, accessible both to the teacher and to the students and can change the lecture's organization: if the teacher starts a dictation, but the students do not begin to write after him/her, the teacher is compelled to draw their attention to the fact that following words must be taken down.

For students, this simultaneous writing by *this* bunch of *us* is an inherent feature of thoughtless note-taking, allowing them to take notes of a lecture without paying attention, and providing all of them with similar notes. The synchronous collective starting and finishing of recording visibly and recognizably suggests to each student when and what to write so that "what" consists in "when". Students do not have to constantly keep track of the teacher's speech and analyze it. For a student, the recordability of the teacher's speech is defined particularly (but not exclusively) by the visible order of the activity of the group of students with the result being the similar content of their notes.

For teachers, student note-taking practices are a phenomenally accessible and manageable object. Teacher can organize note-taking, e.g., by repeating some formulations, by intonationally marking the places that must be written down, or by accurately pronouncing or putting important and potentially unknown words on the board. One of the most widespread ways of the joint organization of note-taking by the teacher and the students is *dictation*. It is not a total phenomenon but it occurs occasionally when teachers want students to write something down exactly. Dictation consists of speaking-for-writing. While dictating, the teacher can read aloud his/her prepared lecture materials or consult with them, reproduce a memorized text, or use a fresh talk. In the teacher's speech the moment when he/she starts to dictate is easily discernable: the tone becomes more level, intonation monotonous, voice measured. Teacher may repeat his/her words several times and make noticeable pauses between and after the repeats. While dictating, the teacher sees that the students are writing it down and orients him/herself to the observable features of their note-taking practice as a resource of lecturing. For example, when he/she sees that the majority of students have recorded the necessary piece, he/she goes on. Some teachers do not pay attention to the audience and this creates specific difficulties for students. But in most cases the speech activity of the teacher

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6   One must be very careful about these "they" and "all". "All" is observational, not statistical phenomenon. There can be some students in the classroom that actually do not take notes and their "not-note-taking" becomes a witnessable feature of the local setting, so the teacher can wonder why they are not note-taking while "all" (the others) are. Their actions are noticeable and accountable against the background of this massive "all" doing one and the same thing. I thank Anne Rawls who directed my attention to this phenomenon.

and the manual activity of the students are successfully mutually coordinated and corrected. Teacher makes pauses and intermissions for students to write down what was just said.

If dictation as a way of the organization of note-taking is not available, students can discover the recordable properties of the teacher's speech on the grounds of proposed *definitions*, composed *lists*, used *terms*, and indicated *topics*. Students, in the process of sequential note-writing, discover these phenomena as a constantly emerging task for listening-and-recording the teacher's lecture. This task is related not only to how the notes are organized, but also to how the teacher's speech organized. Notes do not contain the student's utterances, they contain what-the-teacher-said, although the teacher's words are formatted. What students write-down-after-the-teacher is an inherent characteristic of note-taking, observed, maintained, and organized in the concrete details of notes (for example, in blank spaces of the notes' text which not only refer to the hearable pause in teacher's speech or his/her use of "Now consider…" but are also recordable-readable phenomena of topical shift).

Student engagement in note-taking practices produces silence against which certain sounds become hearable in the classroom: the rustle of turned pages, coughs, the clicks of the computer keys, the sound of pens and pencils, noises from outside of the classroom. Some of these sounds are produced by the ordered activity of note-taking and can testify to its progress and organization. For example, the sound of closed note-books and clicking pens audibly signals the approach of the lecture's end. Note-taking produces a special *sound environment* in the class-room, that is recognizable to its parties and is taken into account by them in the organization of their activity, for example, in not-note-taking. In the course of the lecture students that are not-taking-notes behave in such a way so that their behavior would not visibly and audibly make itself noticeable. The teacher cannot keep an eye on all the students and not all teachers will pay attention to those who obviously are not-taking-notes, but the disturbance of lecture-that-is-note-taken is often corrected by the teacher who asks disturbers to leave the classroom, or by the students themselves who shush their classmates. Such corrective actions are entirely situational, insofar as they are undertaken not as a function of absolute indicators of noise and abnormality of behavior, but always as a part of the locally ordered lecture that is read here-and-now to this note-taking group of students in just this room. Only against the fluid visible and hearable ordered phenomenal background of lecturing-and-note-taking does this or that action attract attention.

Another sound that can often be heard in the classroom during lectures is the sound of the chalk on the blackboard or the marker sliding on the surface of the whiteboard. A lecture hall is not only a space where a teacher and students are somehow mutually positioned and which provides a specific acoustic environment,

but also a space for some records to be put on display. Teachers often use boards while lecturing. In certain cases lecturing and note-taking is impossible without a board – the example being lectures in mathematics. Everything that teacher writes or draws on the board has to be "transported" into the students' notes insofar as what is put on the board is always something *important*: something (e.g. a topic) that, as the teacher thinks, *must be* recorded, or something (e.g. names) that *could be* recorded incorrectly by students so that the teacher prevents such misspelling, or something (e.g. diagrams) that can only be drawn and copied into the notes. The teacher writing on the board usually says what he/she writes and writes what he/she says. For students, who reproduce in their notes what the teacher put on the board, the copied words, numbers, or drawings have an exact and obligatory character. They *must* be copied as *such*. For those students who use tablets or laptops this creates specific difficulties because they have to find a way to bring the materials on the board into their electronic notes (they can take a picture, for example, but there is still a need to connect this picture to the particular place in the notes). It is not as easy as with paper notes. Paper notes, though, pose a different problem: if something is corrected or added to the text or the drawing on the board, you have to change your notes without being able to just erase it.

Note-taking in lectures is a series of actions which link the local circumstances of lecturing and the notes as an organized and an organizational sequence of accountable hand-made details of text, drawings, and numbers. What exactly the notes contain is not a question settled once and for all. It does not involve the "adjustment" of actual materials of teacher's speech and board drawings to some ideal scheme of notes. Rather, note-taking consists in a situated work of solving organizational problems in the unpredictable local practical circumstances. In this sense, note-taking is not only accomplished *during* the lecture, but also something *through which* the lecture is accomplished. Therefore notes, as a material artifact in paper or electronic form, are created, stored, and read in educational settings as a *then-and-there* created material carrier of *knowledge*. To understand how notes can be a knowledge bearer we have to look inside the notes as a specific kind of educational object.
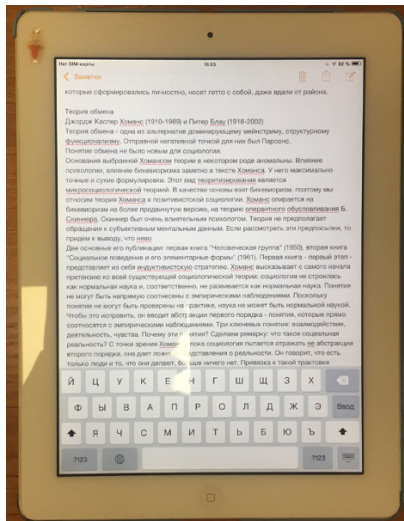
4 Organized Features of Notes as Lecture Records

To accustom the reader to the notes produced by Russian university students, I provide two examples: paper (Pic. 1) and electronic (Pic. 2) notes from different lectures.
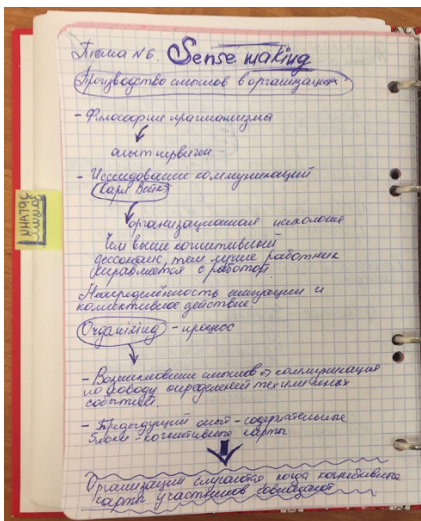
Pic. 1 Paper Notes

Pic. 2 Electronic Notes

You do not have to know Russian to notice the particular features of the notes and their similarities and differences. The visible organization of them is something that is accessible at a first glance. Paper notes contain less text but more symbols. There is much more empty space and more lists, more highlighting, and more diverse "typography" (the note-taker uses different handwriting styles). But if we analyze the specific skills that are needed to produce both notes, we will find that their authors do the same educational work: they are constantly finding in the teacher's speech and other students' activities cues concerning what is to be written down. This unfolding process of searching-for-note-taking is embodied in the practices of listening and writing down. Of course, the notes are "docile records" (Burns 2012) of real-world student activities, but we can analyze their contents if we "enrich" them with the audio- and video-recordings of the actual practices of lecturing and note production. Another circumstance that justifies such an analysis is that a set of notes is the intended result of note-taking. Unlike, for example, materials put on the board, notes are not just a means of organizing students' attention and activities. They are something that will last, i.e. they will be used outside the classroom and therefore are something that students orient to as a material product of their actions. What can the contents of the notes tell us about the note-taking practices?

As I have suggested, one of the organizational features of notes is their topical organization. This organization "mirrors" the topic organization of the lecture, which is made evident by the teacher through direct statements, intonation, pauses, gestures, board's materials, etc. The topical organization of the notes refers to the omnirelevant aspect of note-taking: its incurably *temporal* character. Notes are not intended to be a reflection of the actual sequence of the teacher's words, but they are. The actual order of notes follows the actual order of the lecture even when students use electronic tools which allow jumping easily from place to place and making insertions inside the notes. For students, the actual unfolding of the lecture is the only available source of organization. They are continually finding out what is to be written down without knowing in advance what will follow. For example, in my data there is a piece of notes where students, after the teacher said "The first stage might be called inductivistic strategy", wrote down: "1) stage inductivistic strategy". But the "2)" is absent in her notes, perhaps because teacher did not later say something like "The second stage might be called…" The result is a "list" with only one element in it. The student did not find "2)" in teacher's words. The student expected that teacher was "making a list", but when the second point was not there, student did not change her notes and did not strike out "1)". The notes stayed as they were: the "fingerprint" of the student's embodied reasoning.

As readable and organized educational records, notes display the following characteristics:

The first prominent feature that strikes the eye while reading notes are the *headings*. Each lecture comprises a topic (new or continued) which includes subtopics. The topic is indicated in notes with headings which are accentuated by means of larger or bolder type, color, underlining, blank spaces, direct wording ("Topic 6: . . ."), centering on the page, or in some other way. (The same devices can be used to mark the key words or phrases.) Headings provide for fast and easy searches for topics as a perceived feature of note organization and allow later, while preparing for an exam, to link oral exam questions or the contents of the final essay with those fragments of the notes which can be useful.

The second feature is the use of *abbreviations*. Abbreviations are used much more often in paper notes because it is an effective way to speed up the recording. Students take notes to keep pace with teacher and to make records reasonably. At the same time, notes must be readable for the student who composed them. The fact that sometimes notes are passed to other students and can be read by any competent reader, not familiar with the circumstances of their production, testifies that during lecture most students try to write "plainly". The considerations of readability and quickness, i.e. reducing the uncertainty of reading and recording everything that must be recorded, are inherent features of the process of note-taking. The use of

the abbreviations by the note-takers is a situated accomplishment: abbreviations are produced in view of the local configuration of details such as speed of teacher's speech, the familiarity of the word, the ease of subsequent "deciphering". Even in electronic notes, verbatim records of teacher's words are very rare. Students still paraphrase. For example, in one of analyzed electronic notes the teacher's phrase: "The next thing to be said about this kind of theorizing, of course, is that it is absolutely and definitely microsociological, no one hides it, it's microsociology, microsociological theory" was turned into: "This kind of theorizing is a microsociological theory". As we can see here, student that took electronic notes waited for what followed to decide what should be recorded. Students are not mechanical recorders. They listen to what teachers say and their listening is an organizational phenomenon: they listen to find out what is to be written down.

The recording is also – and this is a third visible feature of notes – based on various *symbols* (e.g., "=>" instead of "hence" or "2" instead of "two") which can be of common usage or invented by the note-taker him/herself. If an individual system is used, it makes the notes partly or completely inaccessible for non-producers. As a rule, there is no need to consistently apply some sophisticated system of coding because it does not take into account the developing situational circumstances of note-taking which are predictably unique. The student decides each time anew what and how to abbreviate depending on the pace of the teacher, pace of recording, discussed topic, and other local parameters of situation. Note-taking activities consist not in an application of rules, but in a lived situational educational work.

Along with these aspects, the widespread and overwhelming feature of notes are the *lists*. Almost all notes contain lists marked by letters (a, b, c, d . . .), numbers (1, 2, 3, 4 . . .; I, II, III, IV . . .), bullets (–, –, –, – . . .), words (firstly, secondly . . .) or in some other way. Most of these lists are easily revealed by students in teacher's speech, but even in the absence of hints from the teacher, students format lecture materials in their notes in such a way. Lists contribute to the topical organization of notes: what becomes a list entry refers to some embracing topic which thereby becomes a "set of entries". When being read, lists are visibly distinguishable as a part of the notes' organization and therefore the reader reads this or that place in the text either as an element of topical structure, or as a list element, or both (because every list lists *something*, e.g., the differences between the concept and the mere word in the notes on formal logic, aspects of sense-making in the notes on organizational sociology, properties of vector field in the notes on mathematics). Lists also obviate the need to create a coherent text: list entries may not have any connection between them, except that all of them are related to the heading of list and follow each other on the paper or electronic page. For the teacher who reads the lecture and for the

students who take notes a listed character of said-and-written utterances removes the necessity to find out how to connect the utterances with one another.

But not all notes are structured in the form of lists. There are also examples, definitions, names, "plain" text, etc. *All* teacher's words are listened to know which of them can be turned into notes. Formulations met in notes were delivered by the teacher and formatted by the student as embodied university-specific knowledge which is useful as a part of a wider educational situation. Students have to write down the *actual* words of the teacher, but only those that have relevance for future educational circumstances, such as exams.

This does not presuppose that notes are the realizations of some "ideal scheme of how to take notes", brought to life in the actual situation. Instead, note-taking is a practice of maintaining and organizing these circumstances *themselves*. Therefore, notes are not "stable" and do not have to be "stabilized". In the course of the lecture and after it notes are constantly transformed (added to, rewritten, marked, high-lighted, headings are inserted, pencil records and drawings are erased or corrected, rearranged). Notes are continuously *produced*, while preserving the observable character of notes. A condition of this preservation is that notes demonstrate the properties of a concrete educational thing.

5   Notes as a Specifically Educational Thing

The practicalities of note-taking presuppose that notes are a specifically educational thing, a place of production and maintenance of various educational phenomena, something that is transferred from one learning situation into another and provides for their educational continuity.

Note-taking is a characteristic activity of *students*. Of course, students who do not take notes do not cease to be students. They may take no notes because they know that they will get these materials some other way: their classmates may share their notes, the teacher may provide his/her lecture notes, or the teacher will share his/her presentation. But *if* students take notes, it is the activity that is attached to their status as "educational animals". Student are here, in this classroom, to *learn* something, and this learning consists in listening-and-taking-notes. The teacher presents something of educational value, although the particular import, and consequently "note-take-ability", of the teacher's particular words has to be discovered in the actual course of listening and writing down. This does not mean that students cannot evaluate teachers according to their ability to deliver lectures that can be recorded. Sometimes students say that a teacher "speaks too quickly",

or "just reads the lectures from her notes", or "provide nothing worthy to write down", or "gives a lot of useful material". Hence, notes are educational things in relation to the production and use of which teachers and students discover the unity and difference of their actions.

Notes are also a place and a way of production of various educational phenomena besides the note-taking itself. Notes are inseparably linked to *lectures*. For the teacher, student note-taking, as something that he/she sees and hears and as something that has a direct bearing on his/her sayings, is the objective fact of the educational situation of lecturing. Notes are the formatted speech of the *teacher*. Students do not write everything that teacher says, and the teacher does not say only what should be written down. The teacher initially knows that his/her words will be note-taken. He/she lectures *that* way. It does not mean that the teacher always expects note-taking, demands it, or applies sanctions against those who do not take notes. But every teacher knows that his/her words may be note-taken and deals with note-taking as an observable student's activity, understandable and justifiable here and now for all members of the situation. The teacher who does not pay attention to the audience may at some point become a subject of students' attempts to organize his/her activity, for example, by requesting to clarify or repeat something said earlier. Therefore, note-taking practices not only consist in the production of an order of interwoven note-taking phenomena and lecturing phenomena, but also provide grounds for their mutual correction, evaluation, and coordination.

Notes incarnate education in a perceivedly accountable way. They "materialize" education in the visible details of concrete things. For example, there is such phenomenon as a "missed class". This phenomenon can be variously ordered in different educational situations: by the teacher who is grading particular student, by the dean's office where a decision on student's fate should be made, or by the student who takes notes. For a student, a missed lecture is one that absent in his/her notes but *should* be there. Sometimes students who take paper notes even leave an empty space in their note-books for the missed lecture. The missed lecture is made visibly absent in notes.

As an educational thing notes pass from one educational situation into another and serve as a practical ground for their identification. Due to notes, each new lecture becomes the first/next/last-lecture-of-the-course. There are two reasons for this local historicity. The first is that notes contain natural educational speech. This speech can be found at lectures, exams, tutorials, and in conversations with the teacher, and notes provide for this diverse usage. In notes, teacher's educational speech gains the material character of recorded utterances that can be stored, re-examined, and reproduced without being individually specific to the teacher. The teacher's speech, formatted and recorded in notes, becomes the basis for student's

utterances as educational utterances, i.e. as produced in educational situations and sufficient for all educational purposes. The second reason is that notes comprise a sequence of local records made over the course. It is a thing which passes from class to class and provides for their topical continuity. In this sense, it makes every lecture one in a series of topics.

The closest link that notes have with extra-classroom educational circumstances is, apparently, with *exams*. In most cases the exam is the very reason why students take notes. As I said earlier, in Russian universities there are two main forms of exams: written (final essay on the course or, less frequently, tests) and oral (a conversation with the teacher on the course content, usually with exam questions distributed in advance). Of course, notes are much more relevant for oral exams, but when preparing their final essays students can also use their notes as a guide on the possible structure and content.[7] Being a record of natural educational speech – formatted teacher's utterances – notes contain the text to *remember* and to *recall*. The teacher who reads the lecture makes his/her educational materials available for students and expects that his/her words will have an educational effect, i.e. that students will learn the topic. At the exam he/she wants to ascertain that this effect was produced. Students' notes, then, are a way for students to make teacher's words available for further reviewing and memorizing. Notes are not just a set of speech formulas which should be learned by rote (although sometimes students do this). During the oral exam the teacher will hear and evaluate the *answer*, not the *text-from-the-notes*. For the student, the answer is something that notes are, and simultaneously something that is *contained* in the notes. In this sense, notes, as a thing to remember, *remind* students of what to answer. The reproduction of materials from the notes during the exam demonstrates that notes are not just a bunch of words. A student has to show a mastery of the natural educational speech that is there, in his/her notes. For example,[8] when during a psychology exam, a teacher asks the student what the properties of nervous system are according to Pavlov, and the student says: "I do not remember any more", the teacher does not evaluate her answer from the point of view of strength or weakness of student's memory or its storage capacity. For teacher, this student witnessably fails to answer the exam question. The problem is not that the student has not memorized something, but that she does not use, here and now, educational materials as formulations of the answer. And the student herself uses, in responding to the teacher's question, the discrepancy between *remembering* and *knowing* educational materials for justifying

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7   That this is a common feature of student educational practices is confirmed, for example, by interviews with students (Badger et al. 2001).

8   The example is suggested to me by Tanya Tyagunova.

her non-answer. She says that she *knows* the answer, but just does not remember it. Here, the remembered content gets its meaning not as it is, but as a recognizable feature of a situated accountable action (in this case, answering). Therefore, there is no need for the student to record, to remember, and to reproduce exactly what the teacher said. The teacher's speech has to be found as natural educational speech in the actual situation of note-taking, preparation for examinations, and answering exam questions.

Notes contain answers to exam questions insofar as they are visibly structured as a sequence of topics which coincide or could possibly coincide with question formulations. When preparing for exams, students use their written notes as lecture records, i.e. as something that the teacher has proposed because he/she wants students to know this and to show this knowledge in an exam. The teacher, when evaluating students' answers, can appeal to what he/she has said to them, and consequently the student's ignorance of certain things testifies to bad learning, not bad notes. Therefore, notes contain natural educational speech which is ordered in such a manner that it can be repeated, remembered, applied, and assessed in various educational situations. The fact that the teacher says in the classroom what will be asked in the exam makes all his/her utterances ultimately recordable, although in the actual course of note-taking students do not know what will be of relevance in the exam. In this respect the students' task is paradoxical: they have to preserve *everything* that teacher says without writing down *every single word*. When students return to their notes while preparing for the exam, this return is always organized as a discovery of the answers to the exam questions inside the notes as something that can be said about particular topics. To answer an exam question means to use natural educational language, that is, to say, in a demonstrably knowing manner, the *same* things that the teacher said. This creates an interesting problem: sometimes students, reading notes, find them *empty*. There is something written down in notes, even a lot, but there is nothing to say about the topic after reading. The reading of the teacher's recorded and formatted words does not provide grounds for finding how to answer. Hence, the content of the notes is evaluated not on the basis of the text's size, but from within the local activities of exam preparation. Notes should be sufficient enough to contain answers to exam questions, i.e. long-enough, corresponding-to-what-the-teacher-said, knowledge-exhibiting, and formulated-in-natural-educational-language.

Thus, notes "materialize" different educational actions and situations and thereby have to be analyzed as a practical phenomenon meaningful only in, and as a way of, its accomplishment. The situated practice of the achievement and maintenance of this phenomenon constitutes the condition of the natural accountability and analyzability of the concrete details of note-taking in the actual situation of lecturing.

This description of the work of note-taking allows us to formulate some properties of note-taking as an ordinary routine practice of knowledge transfer and storage at university.

6   Note-Taking and the Ordinariness of the University Knowledge

The everyday work of note-taking urges students to put their note-book or tablet in their backpack, go to the university, find the scheduled classroom, take their "usual" place, take the note-book or tablet out, wait for lecture to begin, write down a topic, start making records, continue making records, close the note-book or tablet, go to the next class, and to do all this together with other students. In the previous analysis I have tried to grasp the ordinary properties of notes, observable in the actual situation of note-taking during the lecture. Now I want to show that note-taking is a domain-specific way of producing and accumulating university knowledge.

It is not unusual to hear that the aim of lectures is to "transfer knowledge".[9] Or that exams or essays are a form of "knowledge testing". I think these statements are not "mere words", but they *pari passu* do not describe what happens in the classroom. The involved "knowledge" can be analyzed as situated live practice embodied in local details. "Knowledge" transfer or testing is witnessably accomplished *in* concrete circumstances and *as* concrete circumstances. There is no need to appeal to "representations of knowledge" or "culturally shared conceptions of knowledge" to understand how knowledge is locally translated and evaluated in an observable and competent way. The problem of knowledge can be formulated as a problem of the description of the noticeable university-specific phenomena of order which students and teachers produce and to which they orient themselves while organizing their educational activities.

According to such description of the ordinary task of note-taking, knowledge can be understood as a specific distinction between the concrete ways of recording natural educational speech and the local ordered practice of note-taking. I mean the following. The practice of note-taking, which presupposes a certain way of recording the teacher's speech, consists of discovering the way to accomplish the formatting of teacher's words at each moment of time. Some features of the teacher's talk appear to be relevant for the situational sequence of note-taking actions, to

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9   E.g.: "Note taking constitutes a central but often hidden phase in the transmission of knowledge" (Blair 2004, p. 85).

the extent to which this sequence makes a concrete way of their discovering accountable. Finding these features in the course of recording comprises the work of note-taking, embodied in the observable details of note-taking activities. A similar moment is indicated by Livingston (2008a) who distinguishes between "context" and "detail". He says that a description of details does not give us a description of the activity, because details gain their meaning only within the local context which consists not in something "outside" the actions but in a lived situated practice of their production. He offers the example of jigsaw puzzles. Solving a jigsaw puzzle can be described as the progressive work of adjusting its pieces to each other in the course of which we can observe the phenomena of sorting pieces in various piles, placing some pieces around the developing border, inspecting the pieces to find the ones of the same color, etc. However, these details, says Livingston, do not specify the practice of solving jigsaw puzzle, they just refer to its irremediably situational character. The practice of solving a jigsaw puzzle is specified by the context which "*consists of situated practices:* it consists of the material-specific, immediate tasks of searching for puzzle-relevant features of the puzzle pieces" (ibid., p. 847).

The practice of note-taking consists of task of situationally specific searching for the recording-relevant features of the teacher's words, embodied in the concrete details of the notes. Note-taking amounts to solving this task at any moment of time. At the level of detail this solving involves, for example, student's recording of lists, or definitions, or what is dictated, but at the level of context the task for the note-taker is to define the note-relevant features of every teacher's word. This permits us to analyze the practice of note-taking without reference to the circumstances that motivate it, except the practice itself. Only against the background of the context such understood does the real, live work of note-taking become analyzable in the concrete details of the action.

However, Livingston's distinction between context and detail is still strictly analytical in its character. I think it is possible to speak not only about the analytical import of this distinction but also about the situated work of discovering the distinction between detail and context in and as the domain of a particular activity. In the case of note-taking, such a discovery is commonly called "knowledge transfer". The distinction between context and detail is achieved by the parties of the lecture *themselves* as a visible and maintained feature of their activity. As Llewellyn and Spence (2009, p. 1433) say, "the interplay between practice and activity is something people are able to monitor and practically reproduce". Note-taking consists not only of the sequential tasks of searching for the recording-relevant features of the teacher's words, but also in the sequential tasks of discovering a distinction between the searching for recording-relevant features of the teacher's words and the particular details of the notes. This is just what the teacher orients him/herself to while

lecturing and grading essays: the student becomes a "master" in some domain to the extent to which he/she in his/her situated actions discovers a material-specific distinction between the concrete way of recording teacher's words and the ordered lived activity of note-taking. The student has to discover in the teachers' words what is "mathematical", or "sociological", or "biological" about them. Students know (and use this knowledge) that, for example, to *know* sociology is to make a distinction between the concrete way of formatting the teacher's talk and what is done when this formatting is achieved. Knowledge is not *the* details, but only and entirely *in* details. Students and teachers expect and demonstrate this distinction as a condition of competent educational activities. This does not mean that students who take notes during the lecture automatically become "knowledgeable". Knowledge can be exhibited only in specific settings where students demonstrate that they know *this* topic, *this* name, *this* term, *this* way of doing things. But the condition for such a demonstration is that the student can distinguish the concrete way of taking notes in his/her note-book, or tablet, or laptop, and the notes themselves as an "index" of the topical structure of the particular lecture and of the course as a whole. Knowledge in this sense is an irremediably material thing that cannot be reduced to the details of the notes but available only through these details. This knowledge about knowledge is a part of any university educational situation, embodied in note-taking actions.

7   Conclusions

What can we learn from these preliminary observations about university student note-taking practices? And what should we do next? The first thing we can learn is that note-taking is intrinsically interwoven into the *choreography of the classroom*. Note-taking is a cooperative action done *in situ* by all the participants in the situation. Teachers and students coordinate their actions using gaze and bodily movements, and this coordination has its own temporal organization: students orient themselves to the sequence of the teacher's words, gestures, and the presented materials as they unfold before them, while the teacher monitors students note-taking activities, adjusts to them, and facilitates them. One cannot understand how the notes are taken, and why they have the organization they have, without elaborating upon the details of this choreography. The next step is to study how student note-taking

practices are coordinated with the teacher's bodily and sounded doings[10]. When do students start and stop taking notes in the course of the lecture? My preliminary analysis of the videos shows that there is no direct correspondence. Some parts of teacher's speech are expected to be "note-takeable" before their actual appearance, some are recorded as soon as they are produced, and some are brought into the notes only after their production. How this coordination is connected to the details of the students' postures and hand-movements and the teacher's gestures, gazes, pauses, intonations has yet to be discovered.

The second observable thing is that notes are part of the *local history of learning*. Students organize their notes to be a record of the topical structure of a particular course. The notes also serve for them as indices referring to the concrete circumstances of their production: lectures attended and missed, the materials presented by the teacher, the series of completed courses. Due to these indexical properties notes can indicate for competent readers (first of all their author, but others too) the educational particulars of every *this* course, for example, how good or bad the teacher is as an educator, whether he/she uses dictation, which topics were discussed. Notes place every class into a sequential educational organization specific for particular courses and series of courses that comprise university education. Therefore, notes function as a mean of historizing learning practices, making them temporarily organized as a developing history of students' educational actions. To study this historization through students' notes we have to analyze the organization of note-production and note-keeping: how students title, order, and keep their notebooks, tablet notes, or laptop files.

The third lesson that can be drawn from the proposed preliminary study is that notes are closely connected to *knowledge certification practices*, such as exams. For students, notes contain natural educational language that should be used to show that they are knowledgeable, i.e. that they have *learned* something. When taking notes students know that this is *the* educational content, the demonstration of the mastering of which will be expected of them some time later (although they do not know the specific import of the teacher's words as they appear one by one and therefore they inevitably get involved into the situated work of deciding what and how to record). Notes allow the preservation of these contents for indefinite future use. In order to study this future use, we have to clarify the details of the situated practices of manipulating the notes during the preparation for exams and at the exams themselves. How the reading of electronic and paper notes is concerted with

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10 There are studies where one can find some observations concerning the mutual co-organization of note-taking and lecturing. See, for example, Boch and Piolat (2015) and references there.

the reading of other materials necessary for exams or final papers? How do students read them? What is the role of the material organization of notes during this reading? Do students alter their notes when preparing for exam? These questions can be answered only through detailed studies of the actual practices of handling notes for knowledge certification procedures.

I am far from willing to say that "note-taking is the hegemonic study activity at university" (Castelló and Monereo 2005, p. 266). But it is an important practice where we can find a specific form of educational reasoning and action. Being, at first glance, a spectacular example of students' passivity, under a more detailed examination note-taking turns out to be a collaborative production where students are not receivers and teachers are not senders. Rather we are dealing here with a situated social accomplishment that has its own orderliness. To reveal this orderliness, it is necessary to describe the organizational things that constitute note-taking, under the auspices of ethnomethodological research polices.

References

Badger, R., White, G., Sutherland, P., & Haggis, T. (2001). Note Perfect: An Investigation of How Students View Taking Notes in Lectures. *System, 29*(3), 405–417.

Blair, A. (2004). Note Taking as an Art of Transmission. *Critical Inquiry, 31*(1), 85–107.

Boch, F., & Piolat, A. (2015). Note Taking and Learning: A Summary of Research. *The WAC Journal, 16*, 101–113.

Burns, S. L. (2012). "Lecturing's Work": A Collaborative Study with Harold Garfinkel. *Human Studies, 35*(2), 175–192.

Castelló, M., & Monereo, C. (2005). Students' Note-Taking as a Knowledge-Construction Tool. *L1: Educational Studies in Language and Literature, 5*(3), 265–285.

Friedman, M. C. (2014). Notes on Note-Taking: Review of Research and Insights for Students and Instructors. http://hilt.harvard.edu/files/hilt/files/notetaking_0.pdf. Accessed on: July 2nd, 2018.

Jansen, R. S., Lakens, D., & IJsselsteijn, W. A. (2017). An Integrative Review of the Cognitive Costs and Benefits of Note-Taking. *Educational Research Review, 22*, 223–233.

Jefferson, G. (2004). Glossary of Transcript Symbols with an Introduction. In G. H. Lerner (Ed.), *Conversation Analysis: Studies from the First Generation* (pp. 13–31). Amsterdam: John Benjamins.

Kodaira, Y. (2017). An Investigation of Cognitive Processes Associated with Notetaking and Notes-Review. Ph.D. Thesis. Columbia University.

Livingston, E. (1997). *The Ordinary Society.* Unpublished manuscript.

Livingston, E. (2008a). Context and Detail in Studies of the Witnessable Social Order: Puzzles, Maps, Checkers, and Geometry. *Journal of Pragmatics, 40*(5), 840–862.

Livingston, E. (2008b). *Ethnographies of Reason.* Aldershot: Ashgate.

Llewellyn, N., & Spence, L. (2009). Practice as a Members' Phenomenon. *Organization Studies, 30*(12), 1419–1439.

Mueller, P. A., & Oppenheimer, D. M. (2014). The Pen is Mightier Than the Keyboard: Advantages of Longhand over Laptop Note Taking. *Psychological Science, 25*(6), 1159–1168.

Piolat, A., Olive, T., & Kellogg, R. T. (2005). Cognitive Effort during Note Taking. *Applied Cognitive Psychology, 19*(3), 291–312.

Rawls, A. W. (2009). An Essay on Two Conceptions of Social Order: Constitutive Orders of Action, Objects and Identities vs Aggregated Orders of Individual Action. *Journal of Classical Sociology, 9*(4), 500–520.

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