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Gérard Huet - Pāṇini’s Machine

Study notes by Sanskrit AI Universe, based on this video

Video by Gérard Huet (Inria) · University of Hyderabad · 19 Nov 2019

Not the creator's own slides

Sanskrit AI Universe

About these notes

— Official title: Gérard Huet - Pāṇini’s Machine

— Speaker and channel: Gérard Huet (Inria) · University of Hyderabad

— Published 19 Nov 2019 · Running time 1 h 28 min · https://www.youtube.com/watch?v=bxkp_fuZkks

— Official description: Prof. Gerard Huet, Emeritus, Inria, Paris delivered a Distinguished Lecture at the University of Hyderabad on the 7th November 2019 on ‘Panini’s Machine”. Panini wrote a grammar for Sanskrit named Astadhyayi in the form of Sutras. This grammar has been a source of inspiration for the Western linguists since ages. In his talk Prof. Huet claimed that Panini was not only a foremost linguist but also a pioneer in informatics or computer science. He further elaborated that 25 centuries before the inv

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— The journal treats videos as leads, not as sources you should cite on their own. Check the papers and editions behind a claim.

— Caption source: English (auto-generated). Auto-captions can mis-hear words; obvious proper-name spellings were given in IAST where the journal already uses them. Distinctive phrases follow the captions closely.

From the official description

— Prof. Gerard Huet, Emeritus, Inria, Paris delivered a Distinguished Lecture at the University of Hyderabad on the 7th November 2019 on ‘Pāṇini’s Machine”.

— Pāṇini wrote a grammar for Sanskrit named Aṣṭādhyāyī in the form of Sūtras.

— This grammar has been a source of inspiration for the Western linguists since ages.

— In his talk Prof. Huet claimed that Pāṇini was not only a foremost linguist but also a pioneer in informatics or computer science.

— He further elaborated that 25 centuries before the investigations of recursive function theory in mathematical logic and the advent of electronic computers, Pāṇini made important contributions to informatics & information theory.

From the talk · 0:05–9:36

— We have a probe a salsa should be rush a kangaroo here I click this into occupied the dice on the stage this and also I thought.

— Also had his PhD from Case Western Reserve University and then university dabeli he has been a senior researcher research director at india paris from 1989 to 2013 and has.

— Also led the Kok project and developed proof assistant and professor who received the her friend award in 1998 and ESET is the European Association for theoretical computer science award.

— The field of computational linguistics in 2007 he took lead and organized the first symposium on subscript computational linguistics at Paris India and since then he is leading.

From the talk · 9:41–18:23

— This has been going on for some time you know the Sanskrit teaching is my doctoral at NASA and we have to know well sunscreen.

— I would say it is just strictly correct if I may use this knowledge ISM its innovative is relevant but it should not be substantiated so far by concrete development.

— The time which rather were pockets what it means natural so it seems part from these natural languages so people speaking the speaking the related by Chris Anderson Sanskrit.

— This is this is does not work and if I it is not it has never been the mother tongue of anybody question tato it has been aware idea is.

From the talk · 18:30–26:54

— Reason of economy we wanted to have a very short description he gave a recursive definition of compounding which allows where the years of.

— The gamma to firm our meat our young compounds you can have a compound that one small one or two pages so actually.

— This is of this nature that you have to understand that it is your mouth was very different from usual you are now that's a you can do that.

— If the student produces the sequence you will matreya that either invokes illegally a sūtra illegal instruction during machine or results in a non intended meaning of the enunciation.

From the talk · 26:58–35:36

— This generative view of morphology and this analytic view dependency graph of your sentence so a sentential consistency these with dependency constraint analysis okay so the correspondence is that.

— The gamma at sentence level is organized in terms of fulfilling these desires and fulfilling the desires is akin to relieve the dependency structure so your semantics.

— And everything is clear yes but this is a literal relation with reality in reality we don't have that many madela fans and talkative parts yes.

— This generative way of forming patters works so you have that production so you built one pada recursively then you build the next better then you go paddy yes.

From the talk · 35:38–44:10

— That is different from one language to another okay in the case of enemy it was not question of many languages to address Sanskrit but I would propose that.

— These two sides of language you're the speaker yes Andy you have the listener so these are completely different processes.

— In your look at how the intention you have this so the meaning is joyed not just the denotation abidor he a vote so connotation viondra now okay so.

— And give a coloration to what you say make the connotation okay so how would a this sighing a constructive Sangha devotion goes those around so we are elaborate.

From the talk · 44:14–52:31

— Discretization of articulated speech this river is a final granularity not a syllabic level explicit for instance in writing in syllabic alphabets such as deaf negeri deaf negeri okay so.

— We went out with some kind of scone you know this is technically yes but no it's a it's a great innovation they need to have to be able to use.

— But sentence was overall tradition you had to use the four names of a language in order to refer to these populations okay and then panini's root holiday.

— So people who are family will come out they don't think about it you know okay but if we have to send to space.

From the talk · 52:36–1:01:31

— And y mark kha'zix food for instance neighborhoods are denoted by young yeah my young yeah nah so you're removed the M and you have wilderness it's okay.

— And where is our denoted by H and consonants are denoted by a yeah so and I like these until L and these are all the consonants so.

— So it's amazing it's absolutely amazing that you know twenty-five centuries ago we don't even know there was writing at the time you know how did he come up with.

— I met Nicole so it's an agent acting this same is a primary derivative presenter obtained by the root occur to act with morpheme occur.

From the talk · 1:01:35–1:09:30

— In a second gaiden car next the and Amanda so you move so it's some other mechanism so somewhere have you ever know your keyboard.

— And your view which encapsulate some definition very means occur so when you mate review your substitute in value okay which you append to car.

— So you can you can use to Patel so you can get a for such if you.

— In the active voice okay and so on and so forth so forth but this gives you one example of operation you know.

From the talk · 1:09:32–1:18:30

— I am going to go because at the sentence level realizations this could be as in more of a constraint programming methodology.

— So sure I'm quoting from the languages and it ahora culture in her a recent book so while your college was an eminent scholar multi linguist eminent critic.

— The fund to completely complete the machine so we have under a partial prototype but I think that's very interesting and that we should investigate more.

— And perhaps try to find his notes - exactly assess what was his contribution but see he had this ID building you can Union machine and.

From the talk · 1:18:36–1:28:47

— So you have to have metalinguistic who's in Europe I ate only ones so it's only by doing a full implementation that we shall have a complete view of all.

— So they explain various problems in software representation of panini and concepts such as conflict resolution techniques which is hard some have succeeded in emulating video portions of.

— And any expresses doubts advanced simulation of estrogen devices ok so we should not perhaps try to follow to the letter and get some kind of more general device.

— That will be easier to control so there's a full emulator opening this machine is still an open problem but.

Sources and credit

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— Also used: the official video title and description, and the Watch catalogue note already published in this journal (presenter and why the video is listed).

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