Edith and Jane arrive back at the hotel just in time for Caroline's lecture.

People are gathering in the lecture room and Caroline is already at the front of the room, preparing.

A large screen has been provided and Caroline has linked to it from her computer.

Caroline makes her presentation, much as in the talk she gave at the café after the conference in The Netherlands.

Yet she also mentions the idea that arose in the discussion of also having encoded localizable sentences for some 'in-laws' as well and shows some glyphs for some of those.

There is a discussion for a while, nothing controversial.

Jim stands and speaks "Thank you everyone, we can break for a short while now then we can return for the second talk this afternoon. But first let us thank our speaker in the usual manner."

There is a round of applause. Caroline smiles in appreciation.

The break between talks.

John approaches Edith.

"The second lecture is from me actually, ... I would have asked you for permission but you were not around when I was asked, and I needed to either accept or turn down the opportunity." says John.

"That's alright." says Edith.

John is at the front of the lecture room ready to make his presentation. People are gathering.

Jim introduces John.

John begins his presentation.

"The previous speaker described a scenario where localizable sentences technology can be usefully applied in practice. My presentation is at a more basic, almost pure mathematical level, though I recognise that in order to arrive new at the existing topic of localizable sentences it may well be preferable to set the scene by describing a practical application scenario.

"Yet before that scenario was devised the original research was carried out in the way that I have described as almost pure mathematical, by starting with just a few localizable sentences and having thought experiments to discover that the idea would work, and then gradually building upon that by adding extra sentences one by one and observing in a thought experiment that it seems that a synergy developed whereby useful communication flexibility increased as more sentences were added.

"Yet what were the original localizable sentences? The first localizable sentence that was sent over the internet in an email was LOCALIZABLE SENTENCE GOOD DAY and it was sent as a single character, in fact as hexadecimal F9001, which is a private use character in plane 15 of the Universal Character Set.

"The idea of localizable sentences arose from considering what could be encoded as a single character - there were already individual letters, as used in English, there were whole words as used in some oriental languages, various symbols, and emoji characters, each encoded as a single character. So the idea arose of whether a whole sentence could be encoded - yes it could in theory. It was then realized that one could go from such a single character to the text of the underlying sentence that was encoded as that character - yet to any language where a decoding list were available, and that this could potentially be automated, with decoding to whichever supported language the receiving device were set - so communication through the language barrier - not for every possible sentence that could exist, yet for a relatively small set of sentences communication through the language barrier could take place using this technology and it could potentially be very useful in some particular circumstances.

"One example is that mentioned in the talk by the previous speaker, namely seeking information about relatives and friends after a disaster. Another possibility is for automated telephone banking, where the person telephoning his or her bank using a smartphone could receive the messages from the automated system at the bank localized into his or her choice of language - provided that the messages had been previously translated and made available in a lookup file. In each case the translations would have been done - just once - when the system was being engineered before being introduced for the public to use - yet that translation could be used as many times as desired.

"As research has continued the encoding system has changed - no longer one character for each encoded sentence, but a sequence of other characters.

"At the present time there are theoretically three different ways of encoding each sentence that are proposed in our research, two of which are available and could be used now, and one which is not available as it would need a new character to be added to the Universal Character Set - so maybe one day it will become available. There is also a fourth possibility that we are looking at in relation to our research but we have not made a decision about yet."

Edith is surprised at the mention of a fourth possibility. She knows nothing of this and is a little concerned that John has mentioned it in this conference.

John continues. "So I am going to describe the three ways that are proposed in our research, describing each by an example encoding, in each case for the original sentence that I mentioned, namely 'Good day.'

"The first thing to mention is that each of the three ways, or formats, all use the same code number for this particular localizable sentence. In fact it is 123. That is three digits. I mention in passing that not all localizable sentences are encoded using three digits but three digits is the minimum number of digits. Also, as 123 is the complete code number for a sentence, no other sentence is encoded with a code number starting with 123.

"The first format is to have the integral sign as the base character followed by a sequence of circled digit characters, as we are using now for research purposes. This would be for electronic communication. It is a markup system rather than a formal encoding at the level of an international standard yet it can be used now and by using circled digit characters rather than just the ordinary digit characters there is some protection against getting muddled up with ordinary text.

∫①②③

"The second format is to be the exclamation mark as the base character followed by ordinary digit characters.

!123

"This format could be used both for the use of localizable sentences in GS1-128 barcodes, and for electronic communication where only a seven-bit format is possible, and in text messages, including hand-written messages and hardcopy print outs, and by voice over a telephone link.

"The third format would be the international standard if it can be achieved. We are suggesting that a new character be encoded at hexadecimal FFF7 specifically as a base character for a localizable sentence, and that in use an FFF7 character would be followed by a sequence of tag digit characters. It is possible that a cancel tag would be added at the end, but that is not really necessary as the length of the sequence is calculated from the digit sequence, but if adding a cancel tag at the end is what is standardized, then that is not a problem and could indeed possibly be helpful.

"The three formats are convertible each from one to another as the same code number is used for each of them.

"The possible fourth format that I mentioned would be much like the third format that I just mentioned in that it would use a base character and tag characters, though the base character would be an existing character, perhaps one of the emoji characters. There are various potential advantages and various potential disadvantages to this approach, so we are considering them as best we can. For example, a possible advantage is that the encoding as an international standard could be a quicker process: a potential disadvantage is that such speed of encoding has short term advantages but we are wanting an encoding that is best for the long term."

Jim stands and speaks.

"Thank you. We have time for a discussion."

There are some questions and discussions on various aspects of John's presentation, but nothing controversial.

A Director of Enormous Telephones speaks. "All very interesting, but basically of no practical relevance to what we are here at this conference to discuss, namely the future practical application in consumer electronics products, real practical products that

consumers enjoy using, will go out and buy, purchases that keep us in business and our employees in work and by spending their wages helping the economy more generally."

"Well, research is important and we like to think that our research work is of some importance." says John. "Sometimes a particular line of research gets nowhere, but that is all part of research."

"But you have only a few employees, we have many thousands, what can you hope to achieve in comparison to our people with our resources."

"Enough!" calls out a female voice.

Silence.

Edith realizes that she has lost her cool and shouted out and that people are turning to look at her.

Edith gathers herself together and speaks quietly. "I'm .... it is important to realize that LocSARA is a research organization, not a manufacturer. Yes, we do not have to produce product and sell it in order to stay in business, yet we do what we do and we like to think that we have a beneficial effect - indeed if it were not for us and our activity maybe this conference would not be taking place."

"Well, alright, you have done well and got the technology going and done well what you have done and I'll give you that, but going forward it is now for real businesses to decide how things develop."

"We are a real business and we intend to participate as best we can in the future development of the technology and its applications."

"But as I said, you have only a few employees, we have many thousands, what can you hope to achieve in comparison to our people with our resources."

"Well, we do what we can. You are welcome to send someone to observe what we do."

"Oh, just to .... observe .... some carefully planned presentations on one prearranged day!"

"You can come anytime you like and stay as long as you like."

Silence.

Jim stands and speaks "Well, um, thank you, we have had some good presentations and some interesting discussions and that concludes the presentations for today. Please show your appreciation for our speakers in the usual manner."

There is a round of applause.