Hello again, Julia,

It was so nice speaking to you on the phone today, I was fascinated with all you told me. I'm really keen to learn more.

I hope you don't think my first book is too frivolous. It's on the history of one-switch computer games. It includes a section on how quickly assistive technology grew from Reg Mailing's pioneering work in 1960 onwards. The hope is that my book will illuminate what an equalising force accessible games can be linked with the right to play for all. It will hopefully give ideas to people who might enjoy playing such games, disabled or not. It will hopefully also inspire people creating games to give more thought to this niche need for access.

My second book will be encompass all areas of game accessibility, but I was a bit afraid to take that on as my first book, hence this first one.

I would love it if you would answer the following questions. If there's anything you would not want me to include in either book, please just let me know....

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Barry : To much, in my opinion, when rehab, training or whatever is undertaken with disabled people, including those who've had strokes, is serious. Obviously it is serious but, as can be seen from those at the Star centre, an incentive of wanting to do something can achieve so much. Students there wanted to use mobile phones and be like others so they found ways to do things that, if given just exercises or special switches even, they'd have not achieved. Wanting to do something badly is as important as switches, inputs and voice, etc. It would be interesting to see if your games angle was equally taken up by men and women too as an incentive.

1. Do you remember much about the original Mark 1 MAVIS from 1977? Do you remember how the Talking Arithmetic Programme was controlled? Was it switch accessible do you know? I like the stripy knitted cardigan you had on in the photo by the way.

*** We tried all kinds of switches including large puffy ones covered in coloured fur and other fabric. We could place these in all kinds of areas, arms of wheelchairs, down the side so they could be leant on by the body, behind the head, etc. The more colourful the better.
(I'm learning at the moment to use a Mac with voiceover - will tell you more when we meet. Similarly I should be better using "voiceover" on my Iphone but don't get round to it as I make mistakes and don't go for the touchscreen really - spending time with it would solve my problems. Stripey cardi was hand knitted, crochet, nnitting, lace nits with beads etc are my form of computer games and I guess if I get access to courses, patterns, lessons via the Mac or phone then suddenly my skills will improve - nothing to do with MAVIS but my own experience of

finding ways to do things perhaps had an input in to many projects)

2. Did you ever meet FRED? I read in the 1978 N.P.L. report that there was a Flexible Reach Extending Device planned for Mavis, which I assume was some basic computer controlled robotic arm.
*** Reg was keen on flexible arms and robots. Mavis was using early PC and microchip technology Z80 chips. There was a Fred made out of michano - lego was a possible but it didn't have all the technic bits it does now or electronic controls. Terry Winograd who we think, David my husband is helping on this one, did some early work on controls as did a guy who's family name I think was Jackson - there was a robot at the time, can't remember it's name, that spent it's life looking for power points and then plugged itself in to them to recharge before it went off again. The Fred work was based on this AI research - mostly put together at Lughborough but NPL had very extensive workshops which was helpful. Regretably, I loaned the Jackson book to someone who didn't return it - I think published about 1975.

3. I heard from via a school-friend of Joanne's that she used a train set with MAVIS, that her Mum still has. I've copied in the message at the bottom of this e-mail as I thought you might find it interesting. Do you remember if any other devices were set-up to be controlled by the children using MAVIS. I read there was Environmental Control, but I wondered if that was implemented and what it could do.
*** The LGB train was a narrow guage model train usually used in people's gardens. She really liked it. We could link Reg's environmental control system i.e. lights, curtains, answer door, to Mavis and did this. We used the switch box that reg used for people's houses just generating the signals from Mavis where we could add different switches like the large puffy buttons (as you see my favourite) or more boring sticks, buttons on chair handles etc. The problem with the equipment of the time was it's size and you couldn't do more than one thing together. Even with that early technology through the microchips we could improve things. We also had an early voice synthesiser that could be used - built in sentences and words nothing like what you get currently.

4. Do you think the MAVIS project directly inspired some of the later accessibility developments with the BBC Micro and beyond?

*** Mavis was part of my Ph.d work which was supervised out of Hertfordshire Uni (was Hatfield poly then). A very key person who had more imagination than anyone I know was Bill Tagg - director of the Advisory Unit for Computer Based Education. Hertfortshire, from the end of the sixties had all senior schools on line to Hatfield - a dial in. Actually my interest was started at school as I went to school in Hertfordshire and Bill wrote all kinds of very early programmes to give me access - each character had bells and clicks, Hatfield linked two typewriters one braille and one inkprint (IBM golfballs) so I could do things like programs and read what I'd done - the system went in to the computer hence giving me access. Bill was very key to the use of the BBC micro in schools and as part of my Ph.d further access was created for lots of different groups working with Hatfield and the advisory unit. In the early 1980s Kenneth Baker, then It Inister, had lots of projects to extend the use of technology "Concerned technology". He

really believed in giving the general public access be they disabled or not - he's still in the Lords and might see you; he's a nice man and putting core funding from government schemes really took things forward. I was a consultant to the DTI as it was being involved in many of those projects. Equipment like the Concept Keyboard, which gave lots of access both for disabled and schools, came out of Mr Bakers projects? It did, of course, get him lots of publicity but I think he was quite far thinking so influenced many activities which are still having fruits.

5. I would love to hear more about how Chris Evans and Reg Maling inspired you and the team, and of any memories you'd like to share about these two visionary and passionate people?
***Chris was my boss in effect and ran a Human Computer Interactive team. I think he, Bill Tagg and Reg were the main influences but working in a computer science research unit with lots of other projects like signature recognision, speech recognision and speech synthesis meant lots of cross thinking. Donald Davis, of data security fame, was the superintendent of that unit and he was a real scientist too so everyone joined in. David, my husband, joined the team in my last year at NPL - in fact I didn't want to stay there being married to him to dangerous. I suggest we all meet up and he can tell you more about NPL thinking. Reg was a friend of Chris's - don't know how they met but expect it was through flying small planes. Reg had a full instrument rating so borrowed businessmen's planes to take equipment to shows etc in Israel and Europe. He really was knowledgeable on the switch engineering part and physical disability. Don't know his initial background.

6. Are you still in contact with any other members of the MAVIS team? N.

*** No I don't have contact with any team members now. Sadly Chris died and I was friends with his family for years. Sadly Bill died too and although I'm in contact with various people from Hatfield they weren't involved in the switch work. David came in to the project late on, don't know that he really wanted to inherit us as a group who were a bit on the side of the main NPL work but he might know of other people. Through "Concern Technology" I did meet up with lots of the player who I stayed in touch with - in fact a few years back had tea with Kenneth Baker. So can't really help you there. Dick went to Canada and Tim to Nottingham Uni.
Bevan, T. J. Fokard, R. F. Penn?

7. Do you recall if MAVIS could be operated using a single-switch? If so, would that access include navigating the menus, art, music, word processing and games?
***We did work with single switches and had a music programme. Other devices came along based on the BBC micro so that all got merged. We developed some simple games but can't remember which machine they went on. Mavis got rather complicated as you noticed with two departments trying to make the other fund it - I lerned never do things with two large organisations wanting to be king pin.

8. Do you remember anything about the games? I read a tiny bit about Hangman, Target, Patience and Simon.
***Those were the games. Simon was quite important although not recognised as such because

you saw very seriously disabled people speeding up their use of controls and thus becoming more nibble without thinking about that as a goal. We did use the games too with a few stroke people as again they encouraged thinking and control - using different parts of the brain of course.

9. Do you know anyone who may know a relative of Reg Maling? I'm wondering if maybe they have a MAVIS tucked away somewhere I could possibly gain access to. Would love to be able to video one working.***I know nothing about Reg's family. He had a young son I think at the time who'd be grown up. I'm afraid I've no idea where the 3 MAVIS systems went and places like NPL would keep this stuff for years but various moves between buildings means they are not likely to be around. Ask David when we all meet.

10. What are your hopes for the future of man and machine?
***Luckily I have to go and do the supper. It's an interesting subject as technology gives such access in many ways but in some others it takes it away. I'll give you a simple example. Radios have been simple for years - you turn the knob to find the station and similarly press buttons or turn knobs for volume and tone. DAB became menu driven, touch, buttons without any tactile reference IE. they don't stay in to show whether on or off and suddenly radio for people who can't see becomes inaccessible. Yes now there's internet radio but for many this is not so easy and things become expensive. When I was doing my computer science degree at Hatfield a reading device called the Optacon came out. For the first time in my life I had independent access to print, very important in a technical subject as I could then read simple diagrams, maths etc. However, it showed me how much I was missing.

Must go sorry but hope this helps. Let's meet up if you'd like to. I know nothing about computer games I'm afraid.

Thanks again, and very best wishes from Billericay,

Barrie.

Message from Joanne's school friend:

I called Sylvia this evening and she does remember going to a place to try the MAVIS. She seems to remember a lady being there who was visually impaired?? She said that Joanne used the MAVIS to operate a train, Sylvia doesn't have the MAVIS but she does have the train as her grand children played with it under Jo's watchful eye! It remains in the cupboard in a box.

I am going to scan the origional letter that you sent and also the emails and send them to Sylvia.
She and I both said it is a real shame Jo is not here because she had a fantastic memory and would remember all about it and would probably be able to tell you what happened to the MAVIS!

Jo went to Charlton Park School in 1984/5 and Sylvia wonders if the MAVIS was swapped for the next communication system. Apparently she left Richard Cloudesley to go to Charlton Park as the AAC provision was better and the tecnology available was more advanced. SHe had learnt to use a BLISS communication book and went on to use a communication system with a programme called LLL. She ended up using a pathfinder with a programme called UNITY.

Jo was a very independent young lady, who travelled to many places with friends and family. She had a group of carers and she was able to live an independent life whilst at the same time remianing at home with her family.

Jo is probaly looking down on me typing this and 'laughing' because I have forgotten so much!!! Her father John who passed away about 2 years before Jo would also be a font of all knowledge. He was always very proud of what Jo achieved and he always encouraged her to 'communicate' and get her message across. He would help her to set up systems to be able to email friends, text friends - using her communication systems.

I will let you know if I hear anymore from Sylvia.