

bed'ood
18 Feb 92

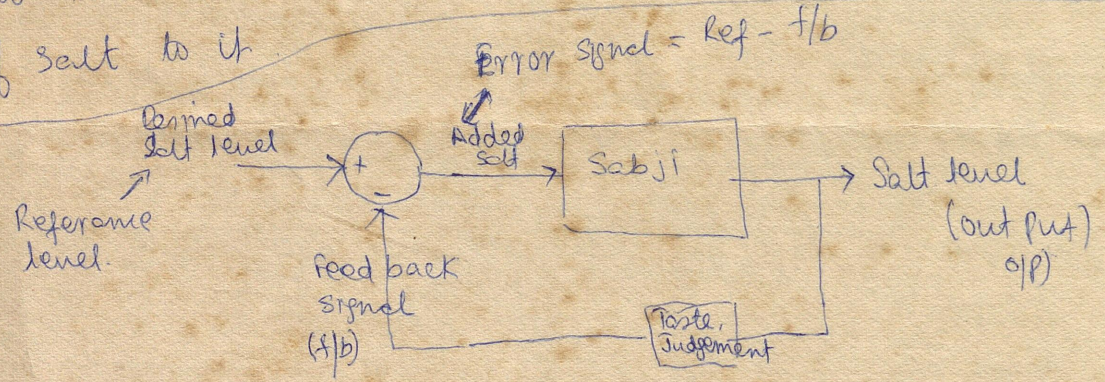
(5)

Dear Chaynika,

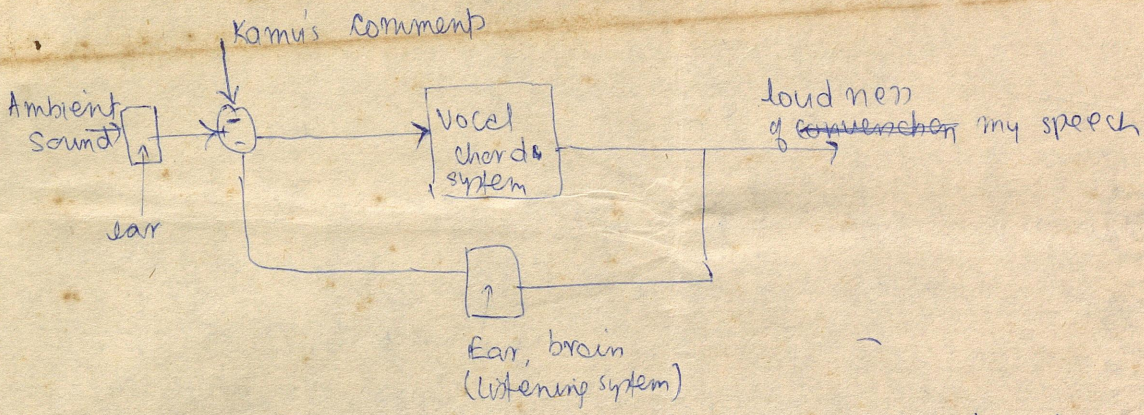
Hope you are as happy as ever. How bumpy was the bus journey? Could you two get some sleep? Were the oranges good? (Because Kemu was later telling me of having rejected some or bad oranges earlier) When I had come to Gowliguda, I had some thing on negative feed back control systems to talk with you but somehow, in the midst of the crowd, the bus that kept on changing places, ~~an~~ Kemu going in search of tablets and perhaps mostly due to my own forgetfulness, we didn't talk. After the bus left, when we were having one of those long walks I suddenly remembered about it. So here it is, the second best I could do, that is to write to you. It is indeed funny subject to have in the first ever letter I am writing to you. Kemu had wanted me to write immediately, but the weekend had to come for me to really do it. She has gone on her South India Darshan on Wednesday. On Sunday, with Meera we saw two Hindi plays. Rakt Kalyan (Hindi Karnard's story on the religion reformer Basavanna) and ~~of 2H1dmi~~ on Parthion. Both by NSD, Delhi. Nice plays, though seeing two plays a day was too much. On Sunday night, after all these plays, we stayed at Meera's place and had some discussion on your book - Mostly between Kemu & Meera, I didn't say much. The discussion was not all that good. You will hear about it from her directly. We also met Sumah on Wednesday for a brief while. We have booked return tickets for Sudhin & Kemu on ~~30~~ 01 March. by Mimar exp. That would be the end of her brief stay in Hyd. We enjoyed it a great deal & so did she. I think ^{more} please forgive my attempt at making things clear. You see, I have tried!

cooking Sabji. One has put in all the vegetables and the masala. Things smell good. One takes a small scoop from the cooking vessel, blows it cold and tastes it. A Salt, little less? Perhaps yes. One goes for the salt bottle, takes 1/2 a spoon - no - a little less would do - and puts it in, mixes it. Taste again. Ah! now taste food!

Let us see what really happened. The objective, the result one wanted was a correct level of salty taste in the sabji. The way one tested it was by tasting a little sabji. The corrective action to bring salty taste to the desired level was adding the necessary amount of salt to it.



I am having one of these nice long walks with Komu. We are talking about दिवादिवा, a play we saw yesterday with Meeraj. The road goes by the side of the railway track. Around the corner comes along a goods train. A real long one with so many wagons. We continue our conversation, but ~~at~~ we find it a bit strenuous because ~~our~~ we have to nearly shout to make ourselves heard.



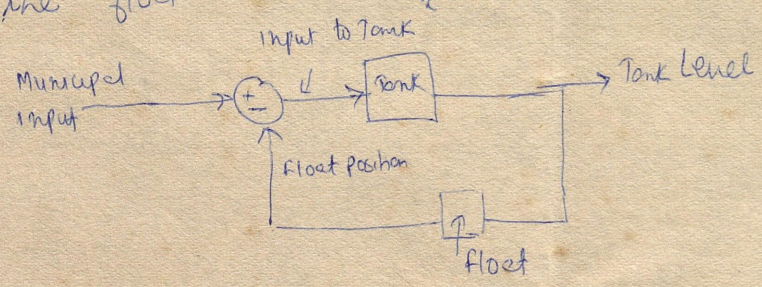
So I fix the loudness of my speech based on the ambient ~~sound~~ noise level. This may involve some experimentation. Some amount of trial and error. For example, when the train just comes around the corner, Kamui shouts at me. "Sri, I just cannot hear you". Then I raise my voice. "Louder still she says shouts" I shout louder. "Ah that is better" and we continue. Ultimately, the loudness of my speech depends on (a) my own understanding of the ambient sound (b) Kamui's comment on my loudness - (after all I want her to hear what I am saying!). These two are the feed back signals that help to stabilize my loudness level.

$$\text{Signal to my vocal chord} = \text{Ambient sound level} - \text{Kamui's comment} - \text{My own understanding of my speech level.}$$

(Kamui's comments may be better taken as Kamui's hearing capacity)

oops! This sounds too complicated!

~~One part~~
 we have the overhead water tank, ~~with~~ I just
 keep the valve of the pipe taking water to it from
 the municipal tap always open. Because God only knows
 when these municipality chaps pump water. Some times
~~at~~ in the middle of the day when I am at the school.
 Some time ~~at~~ at 3 o'clock night! But then when
 water comes, our tank over flows. an waste of water, not to
 say about the dampening of walls. It was then that
 Neeraj came ^{along} and fitted the float valve. The other day
 we went up and saw. It is very simple. There is a
 floating ball fitted near the ~~municipal~~ inlet of the
 municipal pipe into the tank. When water rises in ~~the~~
 our tank, the ~~float~~ floating ball also rises slowly and
 starts closing the ~~inlet~~ inlet pipe. When our tank is
 full the float rises to ^{totally} close the inlet pipe. No more over flow.



$$\text{Tank level} = \text{Municipal IP} - \text{float position}$$

~~Give~~ (Municipal IP can be considered constant to illustrate. If you take out water from tank, float falls, water fills again. etc.)

This float affair is quite different. It is quite automatic. I can just go away to school or see plays or Marcho or what ever. Float ensures that my tank is kept full. This is different from making my Sabji food. I have to be around to taste it then to decide how much salt is to be added. In the Sabji case I am an integral part of the feed back control mechanism. The float story is a case of an automatic feed back control.

~~neg~~ # Examples of feed back control ~~to stabilize~~ and plenty in real life. The objective is always some. Test the output, to decide on action that would ~~stabilize~~ make the output desirable & stable. ~~If salt taste~~ Taste the Sabji for saltiness. If salt is more, add some more ^{vegetable} ~~salt~~ perhaps (?). These mechanisms are called negative feed back control, because the feed back signal is subtracted. less salty → add salt. Our speech is too loud, reduce it. Tank level is low, let water in. Tank level is high, stop water ~~in~~ flow. Nature is full of automatic negative feed back control systems. In fact, that is the only way to arrive at stable output levels.

Examples

6

Case I - The control loop closed through ~~human~~ conscious human intervention

1. ~~to~~ Stabilising Salt level in Sabji
2. Controlling loudness of speech
3. Pouring oil into a bottle - The speed of pouring reduces as the bottle gets filled up.
4. Balancing on cycle by body movements
5. Opening umbrellas to protect from sun/rain, putting on sweater depending on cold.

Since conscious human intervention is present, there is scope to break out. eg. It may rain and I need not open my umbrella - I can just go on enjoying the rain!

Case II Loop closed through involuntary human action.

1. Withdrawing hand from fire
2. Closing eyelids shut when light is flashed on.
3. Mechanism of walking

Case III Automatic closed loop

1. Float valve on water tanks / flush.
2. Automatic electric Iron / Heizer / Air conditioner / fridge (Thermostat ~~for~~ on/off control)

3. Pressure cooker

(Pressure release - to maintain inside pressure)

4. Eye getting adjusted to light intensity

(eye opening changes)

5. Adjustment of TV brightness depending on ambient lighting (Some TV's have)

6. Hormone, enzyme production in body.

Hope the above is of some help. I must say,
 that I have got carried away when at times
 while writing this letter you must pardon me.
 I was just attempting my amateurish skills of
 writing on this phenomenon of feed back control.
 You can just ~~take~~ ~~it~~ take in what you feel like
 and throw away the rest.

Give my warm regards to Swati & Sandhya.

love

Arij

1. Lot of technical words - not limited to Boxes. Could not simpler words, perhaps a bit less accurate, substitute exact medical terminology? Some ^{technical} words are explained, some not. ~~So These~~ A bibliography of technical words may be better than explaining them only the first time they appear. More of 'boxing'?

eg. 1) motility / mobility (?) , 2) linear process / continuous process (?) - P 17.

Who is the audience? Science educated women? activists?

More pictures would help. Fig 6, 17 are not explained, not referred! (Page 24, 25)

2. Some ideas / concepts are repeated. May be ~~purposeful~~ intentionally to add emphasis. But when these are done in almost identical fashion, there is a jarring effect.

eg. 1) sexuality - reproduction link, 2) women's role as mother

3. Ch 5. Intervention in fertility.
The topic jumps ~~to~~ from 'prevention' to 'cure of infertility'.
Is it done purposefully?

4. The focus - which I felt was exposing the unjust politics of fertility - gets dimmed now and then due to half hearted, brief forays to other areas.

eg. child care (p 76-77), mosque / park (p 75).

Do you have to say everything you have to say on women's issues in all writings?

5. Naively anti-technology at times.

6. Proof reading - There is no excuse to have spelling mistakes in these days of word processing tools!

P 15, 36, 37, 39, 51, 67 . . . (may not be exhaustive)

7. North | South idea is OK, but it suddenly comes and until I read notes in the end, I did not understand that ^{this} nomenclature is unfamiliar in ^{occasional} ^{unclear} ^{unclear} by the ^{unclear} of 'developed'. Why this stigma towards some words?

8. Naively anti-male at times.

eg. ① P 51 on ~~for~~ porno posters, ② ~~Men~~ have privacy is a problem for ^{not} men as well as women (P 72)

9. Such nice, effective rendering of women's dialogues, conversations! Why can't the text that follows be also be nice? (Some of them are terrible!)

10. Is there a thread of anarchism running through? ^{terrible} on P 38. What are the two sides of struggle?

11. I have written only criticisms. There are 1000 good things which you already know I presume.

Ori