DETECTION OF INTERSTELLAR BS IN THE CIRRUS DARK CLOUD OF THE NUMBBUM ASSOCIATION
I. AN INTUITIVE MODEL AND ITS SUBSEQUENT OBSERVATION

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ABSTRACT

Previous suspicions of large quantities of BS in large astronomical associations have been confirmed by observation.

Interstellar boron sulfide, BS, has been predicted as a fragment of the detailed ion-molecule chain outlined by Dack and Balgarno (1980). Its significance in the grand cosmochemical scheme of Charfman, Houdini, Aardvaark, Raoul, and Finzi (1974, hereinafter referred to as CHARF) was pointed out by Sollenoid and Haltpeter (1978) in predicting the correlation between radio map contours and chemical reaction routes. Figure 1 illustrates this correlation.

Searches for the gaseous phase were first carried out in 1963 by Zen Buckerman while seated in the lotus position at the 2-m Charfman Memorable Telescope on Maiden-knoll in Tahiti. We have subsequently repeated these observations with increased sensitivity. Our search was restricted to the Cirrus dark cloud centered on the BO star HD 1, located in the Numbbum Association and referred to as OMCTMCGMC-280Z, and noted for its intense wind. Figure 2 illustrates a typical line of BS. There is a composite photograph of the BS source taken (B. and D. Greenerelm, 1981) with broad-band alphabetical filters at the front of this book.

Alternate theories of BS formation on solid surfaces by Mayonnaise Hamburger (1977) have been considered, but only gas-produced BS can account for the amount reported here. However the yellow stuff reported by Hamburger (this volume) may well be mustard.

BS emission was generally observed in mornings and evenings, but was finally detected on Friday afternoon at a 1.8σ level. Its lifetime was estimated to be approximately 5 days, but the level of emission was generally variable. The detection of this molecule has considerable impact on our understanding of Giant Gas Clouds which will be discussed in a later paper, but we want to note the most important of these at

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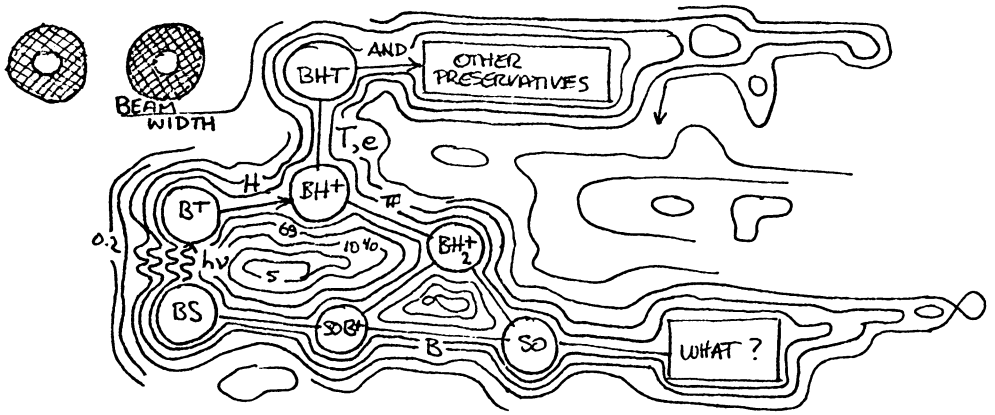

Figure 1

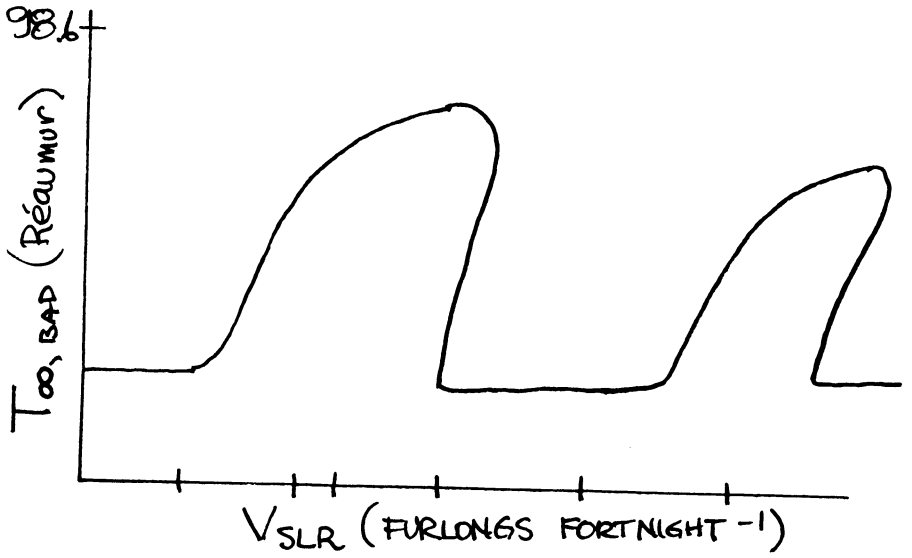

Figure 2

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this time: as predicted by B. Bok (1979) "the only way you play the piano is at all ends-simultaneously."

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DISCUSSION FOLLOWING CHARFMAN

Moustachio: You seem not to have considered the effects of magnetic fields on the formation and subsequent evolution of clouds of boron sulfide, or as the British would say, boron sulphide. As you may be aware I have long advocated magnetism, particularly the personal variety; one of my numerous speeches on the subject is quoted at length in the Proceedings of last year's Eggnog Symposium on the Search for Insulin in Interstellar Space (ed. by Oil and Wickerarmchair). Would you care to comment?

Charfman: Your point is well taken. What was it?

Theoretiksen: You mentioned that the boron sulfide profile showed evidence of self-absorption. Could you tell us whether the absorbing material lies in front of or behind the source, and if so, what it is likely to consist of?

Charfman: Yes.

Ripoff: I wish to point out that I and my student who did all the work but whose name I forget have searched extensively for the ring analog of boron sulfide, achieving upper limits of $\lesssim$ 5 mK. Allowing for beam dilution and the effects of the partition function, the equivalent upper limit to the molecular density is $10^{18}cm^{-3}$, which indicates that Avagadro's Number is not applicable to the interstellar medium, at least for boron sulphide.

Charfman: I agree.

Effusiveus: I can't overemphasize how terribly important your discovery is for interstellar chemistry. It opens up all kinds of new avenues of research. Quite obviously there is a whole plethora of molecules out there all bumping and grinding in the dark and getting excited. We were having a go with our four-footer on Broadway just yesterday and we got all sorts of new lines, especially from cab drivers.

In fact, sorry about that, I'll pick it up in a minute, what was the bloody microphone doing there anyway, in fact we find it's a very good observing site, we've seen a lot of fine structure, particularly on hot summer days. No, I don't want to write this down on one of your beastly pieces of paper, and I hope you're not recording this either.

Charfman: Thank you. I think.

Sock: Have you looked for boron sulfide in any Southern Hemisphere globules?

Charfman: No.

Sock: You dumb bonehead.

Solemnambulous: I will be giving a talk tomorrow afternoon which involves giant clouds of BS. Those of you who have arranged to play tennis can read a report of it in yesterday's New York Times.

Buckerman: As some of you may know, Pat Panhandler and I recently went on a trip to the Himalayas in search of the Yeti. We didn't actually find the Yeti but maybe he found us because something big got into our sleeping bags one night and anyway it was all very interesting and we think you'll enjoy it and we're going to be showing slides of our trip for our friends and anybody else who might be interested downstairs in the Kandahar room after dinner tonight probably about 8 o'clock I think if we can find a projector. It probably won't go on past midnight because I have to start preparing my two-hour invited address I'm giving first thing tomorrow morning.

Snide: Have you been sniffing something?

Charfman: Would you guys shut up? Who the hell's talk is this anyhow?

Maxplanckenstein: Gentlemen, this session is already three hours and eleven minutes behind time. I think we'd better move on to the next speaker. Would somebody wake up the next speaker please? That's him over there slumped against the radiator. Meanwhile Dr. Android from the Local Organising Committee has some brief announcements.

Android: Somebody lost his scoreboard after yesterday's golf tournament. Unfortunately it seems to have been vandalised, but we've managed to piece it together and the owner can have it back by correctly identifying his score and answering a skill-testing question. Also we would like a few volunteers to form a search party to look for Drs. Panhandler and Shermantank who are overdue from yesterday's fun run around the lake. Finally, Dr. Moresaki wants to challenge whoever it was he played at table tennis in the bar last night to another game this afternoon, when he thinks he would be less likely to keep falling off the table.

Maxplanckenstein: Thank you, Dr. Android. And now, the next speaker, Dr. Hamburger, whose talk is entitled "Gas Phase Theory Goes against the Grain."