

Silence Please

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You come upon the "White Hart" quite unexpectedly in one of these anonymous little lanes leading down from Fleet Street to the Embankment. It's no use telling you where it is: very few people who have set out in a determined effort to get there have ever actually arrived. For the first dozen visits a guide is essential: after that you'll probably be all right if you close your eyes and rely on instinct. Also-to be perfectly frank-we don't want any more customers, at least on our night. The place is already uncomfortably crowded. All that I'll say about its location is that it shakes occasionally with the vibration of newspaper presses, and that if you crane out of the window of the gents' room you can just see the Thames.

From the outside, it looks like any other pub-as indeed it is for five days of the week. The public and saloon bars are on the ground floor: there are the usual vistas of brown oak paneling and frosted glass, the bottles behind the bar, the handles of the beer engines . . . nothing out of the ordinary at all. Indeed, the only concession to the twentieth century is the juke box in the public bar. It was installed during the war in a laughable attempt to make G.I.'s feel at home, and one of the first things we did was to make sure there was no danger of its ever working again.

At this point I had better explain who "we" are. That is not as easy as I thought it was going to be when I started, for a complete catalogue of the "White Hart's" clients would probably be impossible and would certainly be excruciatingly tedious. So all I'll say at this point is that "we" fall into three main classes. First there are the journalists, writers and editors. The journalists, of course,

gravitated here from Fleet Street. Those who couldn't make the grade fled elsewhere: the tougher ones remained. As for the writers ' most of them heard about us from other writers, came here for copy, and got trapped.

Where there are writers, of course, there are sooner or later editors. If Drew, our landlord, got a percentage on the literary business done in his bar, he'd be a rich man. (We suspect he is a rich man, anyway.) One of our wits once remarked that it was a common sight to see half a dozen indignant authors arguing with a hard faced editor in one corner of the "White Hart", while in another, half a dozen

indignant editors argued with a hard-faced author.

So much for the literary side: you will have, I'd better warn you, ample opportunities for close-ups later. Now let us glance briefly at the scientists. How did they get in here?

Well, Birkbeck College is only across the road, and King's is just a few hundred yards along the Strand. That's doubtless part of the explanation, and again personal recommendation had a lot to do with it. Also, many of our scientists are writers, and not a few of our writers are scientists. Confusing, but we like it that way.

The third portion of our little microcosm consists of what may be loosely termed "interested laymen". They were attracted to the "White Hart" by the general brouhaha, and enjoyed the conversation and company so much that they now come along regularly every Wednesday—which is the day when we all get together. Sometimes they can't stand the pace and fall by the wayside, but there's always a fresh supply.

With such potent ingredients, it is hardly surprising that Wednesday at the "White Hart" is seldom dull. Not only have some remarkable stories been told there, but remarkable things have happened there. For example, there was the time when Professor --, passing through on his way to Harwell, left behind a brief-case containing—well, we'd better not go into that, even though we did so at the time. And most interesting it was, too Any Russian agents will find me in the corner under the dartboard. I come high, but easy terms can be arranged.

Now that I've finally thought of the idea, it seems astonishing to me that none of my colleagues has ever got round to writing up these stories. Is it a question of being so close to the wood that they can't see the trees? Or is it lack of incentive? No, the last

explanation can hardly hold: several of them are quite as hard up as I am, and have complained with equal bitterness about Drew's "NO CREDIT" rule. My only fear, as I type these words on my old Remington Noiseless, is that John Christopher or George Whitley or John Beynon are already hard at work using up the best material. Such as, for instance, the story of the Fenton Silencer

I don't know when it began: one Wednesday is much like another and it's hard to tag dates on to them. Besides, people may spend a couple of months lost in the "White Hart" crowd before you first notice their existence. That had probably happened to Harry Purvis, because when I first came aware of him he already knew the names of most of the people in our crowd. Which is more than I do these days, now that I come to think of it.

But though I don't know when, I know exactly how it all started. Bert Huggins was the catalyst, or, to be more accurate, his voice was. Bert's voice would catalyse anything. When he indulges in a confidential whisper, it sounds like a sergeant major drilling an entire regiment. And when he lets himself go, conversation languishes elsewhere while we all wait for those cute little bones in the inner ear to resume their accustomed places.

He had just lost his temper with John Christopher (we all do this at some time or other) and the resulting detonation had disturbed the chess game in progress at the back of the saloon bar. As usual, the two players were surrounded by backseat drivers, and we all looked up with a start as Bert's blast whammed overhead. When the echoes died away, someone said: "I wish there was a way of shutting him up."

It was then that Harry Purvis replied: "There is, you know."

Not recognizing the voice, I looked round. I saw a small, neatly dressed man in the late thirties. He was smoking one of those carved German pipes that always make me think of cuckoo clocks and the Black Forest. That was the only unconventional thing about him: otherwise he might have been a minor Treasury official all dressed up to go to a meeting of the Public Accounts Committee.

"I beg your pardon?" I said.

He took no notice, but made some delicate adjustments to his pipe. It was then that I noticed that it wasn't, as I'd thought at

first glance, an elaborate piece of wood carving. It was something much more sophisticated—a contraption of metal and plastic like a small chemical engineering plant. There were even a couple of minute valves. My God, it was a chemical engineering plant

I don't goggle any more easily than the next man, but I made no attempt to hide my curiosity. He gave me a superior smile.

"All for the cause of science. It's an idea of the Biophysics Lab. They want to find out exactly what there is in tobacco smoke hence these filters. You know the old argument—does smoking cause cancer of the tongue, and if so, how? The trouble is that it takes an awful lot of—er—distillate to identify some of the obscurer by-products. So we have to do a lot of smoking."

"Doesn't it spoil the pleasure to have all this plumbing in the way?"

"I don't know. You see, I'm just a volunteer. I don't smoke."

"Oh," I said. For the moment, that seemed the only reply. Then I remembered how the conversation had started.

"You were saying," I continued with some feeling, for there was still a slight tintinnus in my left ear, "that there was some way of shutting up Bert. We'd all like to hear it—if that isn't mixing metaphors somewhat."

"I was thinking," he replied, after a couple of experimental sucks and blows, "of the ill-fated Fenton Silencer. A sad story yet, I feel, one with an interesting lesson for us all. And one day who knows?—someone may perfect it and earn the blessings of the world.

Suck, bubble ' bubble, plop

"Well, let's hear the story. When did it happen?"

He sighed.

"I'm almost sorry I mentioned it. Still, since you insist—and, of course, on the understanding that it doesn't go beyond these walls."

"Er—of course."

"Well, Rupert Fenton was one of our lab assistants. A very bright youngster, with a good mechanical background, but, naturally, not very well up in theory. He was always making gadgets in his spare time.

Usually the idea was good, but as he was shaky on fundamentals the things hardly ever worked. That didn't seem to discourage him: I think he fancied himself as a latter-day Edison, and imagined he could make his fortune from the radio tubes and

other oddments lying around the lab. As his tinkering didn't interfere with his work, no-one objected, indeed, the physics demonstrators did their best to encourage him, because, after all, there is something refreshing about any form of enthusiasm. But no-one expected he'd ever get very far, because I don't suppose he could even integrate e to the x ."

"as such ignorance possible?" gasped someone.

"Maybe I exaggerate. Let's say x to the x . Anyway, all his knowledge was entirely practical—rule of thumb, you know. Give him a wiring diagram, however complicated, and he could make the apparatus for you. But unless it was something really simple, like a television set, he wouldn't understand how it worked. The trouble was, he didn't realize his limitations. And that, as you'll see, was most unfortunate.

"I think he must have got the idea while watching the Honours Physics students doing some experiments in acoustics. I take it, of course, that you all understand the phenomenon of interference,?"

"Naturally," I replied.

"Hey!" said one of the chess-players, who had given up trying to concentrate on the game (probably because he was losing). "I don't."

Purvis looked at him as though seeing something that had no right to be around in a world that had invented penicillin.

"In that case," he said coldly, "I suppose I had better do some

explaining." He waved aside our indignant protests. "No, I insist.

It's precisely those who don't understand these things who need to

be told about them. If someone had only explained the theory to

poor Fenton while there was 's still time . . . 1,

He looked down at the now thoroughly abashed chess-player.

"I do not know," he began, "if you have ever considered the nature of sound. Suffice to say that it consists of a series of waves moving through the air. Not, however, waves like those on the surface of the sea—oh dear no! Those waves are up and down movements. Sound waves consist of alternate compressions and rarefactions."

"Rare-what?"

"Rarefactions."

"Don't you mean 'rarefactions'?"

"I do not. I doubt if such a word exists, and if it does, it

shouldn't," retorted Purvis, with the aplomb of Sir Alan Herbert dropping a particularly revolting neologism into his killing-bottle. "Where was I? Explaining sound, of course. When we make any sort of noise, from the faintest whisper to that concussion that went past just now, a series of pressure changes moves through the air. Have you ever watched shunting engines at work on a siding? You see a perfect example of the same kind of thing. There's a long line of goods-wagons, all coupled together. One end gets a bang, the first two trucks move together-and then you can see the compression wave moving right along the line. Behind it the reverse thing happens-the rarefaction-I repeat, rarefaction-as the trucks separate again.

"Things are simple enough when there is only one source of sound-only one set of waves. But suppose you have two wave patterns, moving in the same direction? That's when interference arises, and there are lots of pretty experiments in elementary physics to demonstrate it. All we need worry about here is, the fact-which I think you will all agree is perfectly obvious-that if one could get two sets of waves exactly out of step, the total result would be precisely zero. The compression pulse of one sound wave would be on top of the rarefaction of another-net result-no change and hence no sound. To go back to my analogy of the line of wagons, it's as if you gave the last truck a jerk and a push simultaneously. Nothing at all would happen.

"Doubtless some of you will already see what I am driving at, and will appreciate the basic principle of the Fenton Silencer. Young Fenton, I imagine, argued in this manner. 'This world of ours,' lit said to himself, 'is too full of noise. There would be a fortune for anyone who could invent a really perfect silencer. Now, what would that imply . . . T

"It didn't take him long to work out the answer: I told you he was a bright lad. There was really very little in his pilot model. It consisted of a microphone, a special amplifier, and a pair of loudspeakers. Any sound that happened to be about was picked up by the mike, amplified and inverted so that it was exactly out of phase with the original noise. Then it was pumped out of the speakers, the original wave and the new one cancelled out, and the net result was silence.

"Of course, there was rather more to it than that. There had

to be an arrangement to make sure that the canceling wave was just the right intensity-otherwise you might be worse off than when you started. But these are technical details that I won't bore you with. As many of you will recognize, it's a simple application of negative feed-back."

"Just a moment!" interrupted Eric Maine. Eric, I should mention, is an electronics expert and edits some television paper or other. He's also written a radio play about space-flight, but that's another story. "Just a moment! There's something wrong here. You couldn't get silence that way. It would be impossible to arrange the phase . . .

Purvis jammed the pipe back in his mouth. For a moment there was an ominous bubbling and I thought of the first act of "Macbeth". Then he fixed Eric with a glare.

"Are you suggesting," he said frigidly, "that this story is untrue?"

"Ah-well, I won't go as far as that, but Eric's voice trailed away as if he had been silenced himself. He pulled an old envelope out of his pocket, together with an assortment of resistors and condensers that seemed to have got entangled in his handkerchief, and began to do some figuring. That was the last we

heard from him for some time.

"As I was saying," continued Purvis calmly, "that's the way Fenton's Silencer worked. His first model wasn't very powerful, and it couldn't deal with very high or very low notes. The result was rather odd. When it was switched on, and someone tried to talk, You'd hear the two ends of the spectrum-a faint bat's squeak, and a kind of low rumble. But he soon got over that by using a more linear circuit (dammit, I can't help using some technicalities!) and in the later model he was able to produce complete silence over quite a large area. Not merely an ordinary room, but a full-sized hall. Yes. . . .

"Now Fenton was not one of these secretive inventors who won't tell anyone what they are trying to do, in case their ideas are stolen. He was all too willing to talk. He discussed his ideas with the staff and with the students, whenever he could get anyone to listen. It so happened that one of the first people to whom he demonstrated his-improved Silencer was a young Arts student called -I think-Kendall, who was taking Physics as a subsidiary subject.

Kendall was much impressed by the Silencer, as well he might be. But he was not thinking, as you may have imagined, about its commercial possibilities, or the boon it would bring to the outraged ears of suffering humanity. Oh dear no! He had quite other ideas.

"Please permit me a slight digression. At college we have a flourishing Musical Society, which in recent years has grown in numbers to such an extent that it can now tackle the less monumental symphonies. In the year of which I speak, it was embarking on a very ambitious enterprise. It was going to produce a new opera, a work by a talented young composer whose name it would not be fair to mention, since it is now well-known to you all. Let us call him Edward England. I've forgotten the title of the work, but it was one of these stark dramas of tragic love which, for some reason I've never been able to understand, are supposed to be less ridiculous with a musical accompaniment than without. No doubt a good deal depends on the music.

"I can still remember reading the synopsis while waiting for the curtain to go up, and to this day have never been able to decide whether the libretto was meant seriously or not. Let's see-the period was the late Victorian era, and the main characters were Sarah Stampe , the passionate postmistress, Walter Partridge, the saturnine gamekeeper, and the squire's son, whose name I forget. It's the old story of the eternal triangle, complicated by the villager's resentment of change-in this case, the new telegraph system, which the local crones predict will Do Things to the cows' milk and cause trouble at lambing time.

"Ignoring the frills, it's the usual drama of operatic jealousy. The squire's son doesn't want to marry into the Post Office, and the gamekeeper, maddened by his rejection, plots revenge. The tragedy rises to its dreadful climax when poor Sarah, strangled with parcel tape, is found hidden in a mail-bag in the Dead Letter Department. The villagers hang Partridge from the nearest telegraph pole, much to the annoyance of the linesmen. He was supposed to sing an aria while he was being hung: that is one thing I regret missing. The squire's son takes to drink, or the Colonies, or both: and that's that.

"I'm sure you're wondering where all this is leading: please bear with me for a moment longer. The fact is that while this synthetic jealousy was being rehearsed, the real thing was going on back-

stage. Fenton's friend Kendall had been spurned by the young lady who was to play Sarah Stampe . I don't think he was a particularly vindictive person, but he saw an opportunity for a unique revenge. Let us be frank and admit that college life does breed a certain irresponsibility-and in identical circumstances, how many of us would have rejected the same chance?

"I see the dawning comprehension on your faces. But we, the audience, had no suspicion when the overture started on that memorable day. It was a most distinguished gathering: everyone was there, from the Chancellor downwards. Deans and professors were two a penny: I never did discover how so many people had been bullied into coming. Now that I come to think of it, I can't remember what I was doing there myself.

"The overture died away amid cheers, and, I must admit, occasional cat-calls from the more boisterous members of the audience. Perhaps I do them an injustice: they may have been the more musical ones.

"Then the curtain went up. The scene was the village square at Doddering Sloughleigh, circa 1860. Enter the heroine, reading the postcards in the morning's mail. She comes across a letter addressed to the young squire and promptly bursts into song.

"Sarah's opening aria wasn't quite as bad as the overture, but it was grim enough. Luckily, we were to hear only the first few bars

"Precisely. We need not worry about such details as how Kendall had talked the ingenuous Fenton into it-if, indeed, the inventor realized the use to which his device was being applied. All I need say is that it was a most convincing demonstration. There was a sudden, deadening blanket of silence, and Sarah Stampe just faded out like a TV program when the sound is turned off. Everyone was frozen in their seats, while the singer's lips went on moving silently. Then she too realized what had happened. Her mouth opened in what would have been a piercing scream in any other circumstances, and she fled into the wings amid a shower of postcards.

"Thereafter, the chaos was unbelievable. For a few minutes everyone must have thought they had lost the sense of hearing, but soon they were able to tell from the behavior of their companions that they were not alone in their deprivation. Someone in the Physics

Department must have realized the truth fairly promptly, for soon little slips of paper were circulating among the V.I.P.'s in the front row. The Vice-Chancellor was rash enough to try and restore order by sign-language, waving frantically to the audience from the stage. By this time I was too sick with laughter to appreciate such fine details.

"There was nothing for it but to get out of the hall, which we all did as quickly as we could. I think Kendall had fled-he was so overcome by the effect of the gadget that he didn't stop to switch it off. He was afraid of staying around in case he was caught and lynched. As for Fenton-alas, we shall never know his side of the story. We can only reconstruct the subsequent events from the evidence that was left.

"As I picture it, he must have waited until the hall was empty, and then crept in to disconnect his apparatus. We heard the explosion all over the college."

"The explosion?" someone gasped.

"Of course. I shudder to think what a narrow escape we all had. Another dozen decibels, a few more phones-and it might have happened while the theatre was still packed. Regard it, if you like, as an example of the inscrutable workings of providence that only the inventor was caught in the explosion. Perhaps it was as went: at least he perished in the moment of achievement, and before the Dean could get at him."

"Stop moralizing, man. What happened?"

"Well, I told you that Fenton was very weak on theory. If he'd gone into the mathematics of the Silencer he'd have found his mistake. The trouble is, you see, that one can't destroy energy. Not even when you cancel out one train of waves by another. All that happens then is that the energy you've neutralized accumulates somewhere else. It's rather Re sweeping up all the dirt in a room -at the cost of an unsightly pile under the carpet.

"When you look into the theory of the thing, you'll find that Fenton's gadget wasn't a silencer so much as a collector of sound ' All the time it was switched on, it was really absorbing sound energy. And at that concert, it was certainly going flat out. You'll understand what I mean if you've ever looked at one of Edward England's scores. On top of that, of course, there was all the noise the audience was making-or I should say was trying to make-

during the resultant panic. The total amount of energy must have been terrific, and the poor Silencer had to keep on sucking it up. Where did it go? Well, I don't know the circuit details-probably into the condensers of the power pack. By the time Fenton started to tinker with it again, it was like a loaded bomb. The sound of his approaching footsteps was the last straw, and the overloaded apparatus could stand no more. It blew up."

For a moment no-one said a word, perhaps as a token of respect for the late Mr. Fenton. Then Eric Maine, who for the last ten minutes had been muttering in the corner over his calculations, pushed his way through the ring of listeners. He held a sheet of paper thrust aggressively in front of him.

"Hey!" he said. "I was right all the time. The thing couldn't work. The phase and amplitude relations.

Purvis waved him away.

"That's just what I've explained," he said patiently. "You should have been listening. Too bad that Fenton found out the hard way."

He glanced at his watch. For some reason, he now seemed in a hurry to leave.

"My goodness! Time's getting on. One of these days, remind me to tell you about the extraordinary thing we saw through the new proton microscope. That's an even more remarkable story."

He was half way through the door before anyone else could challenge him. Then George Whitley recovered his breath.

"Look here," he said in a perplexed voice. "How is it that we never heard about this business?"

Purvis paused on the threshold, his pipe now burbling briskly as it got into its stride once more. He glanced back over his shoulder.

"There was only one thing to do," he replied. "We didn't want a scandal-de mortuis nil nisi bonum, you know. Besides, in the circumstances, don't you think it was highly appropriate to-a hush the whole business up? And a very good night to you all."