current decrease represented by negative Joshi Effect. On this view electrons initiate the current in dark and negative ions do so under light. Thus there are in the two cases (5) and (6) differences in respect of velocity and number of current carriers and the ionising power of the current initiators, *viz.*, electrons in (5) and negative ions in (6). This accounts for the photo-diminution, $-\Delta i$.

On this basis, the suppression of the associated H.F.'s, in terms of Klemenc, *et al.*'s theory originates as follows: Comparatively, a greater proportion of surface charges is formed with free electrons in dark. Under light from (6) neutral particles or/and negative ions are released, these last possess a markedly lower ionising efficiency. The corresponding surface charges produced will consist chiefly of negative ions and electrons. Their neutralisation, therefore, would yield weaker pulses under light than in dark, where the surface charge density is greater due to presence of free electrons (with their more intense ionising power) from (5). The reduced strength of the H.F.'s under light, therefore, follows.

We can view the problem from another standpoint. An ozoniser can be considered as a condenser[4] discharging internally. Under light the ionisation is reduced; the corresponding capacity and especially resistance become greater than in dark. A decrease in frequency should, therefore, follow since to a first approximation $f = (1/2\pi).\sqrt{(1/LC - 4R^2/L^2)}$, where f denotes not the resonant frequency but Σf the equivalent frequency.[4] Joshi observed[5,7,8] that $-\Delta i$ is reduced numerically by the introduction of a serial resistance in the circuit, which was ascribed by him to a preferential damping of the H.F.'s. This last should also occur under light since i diminishes, indicating increase in resistance.

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RADIATION CORRECTION AND THE LAW OF COOLING

In a recent note, Gupta[1] has compared the relative rates of heat loss by a cooling body as calculated from the Stefan's Law on the supposition that the body behaves as a perfect black body and that from Newton's Law of cooling. He finds that, for a difference of temperature of about 5° C. between the body and the surroundings, the contribution of radiation loss is about 75 per cent. and of convection about 25 per cent. The experiment was performed by suspending a calorimeter inside a bigger vessel by means of threads.

We have performed the experiment under different conditions. A calorimeter was supported inside a double-walled bigger vessel by means of an ebonite disc having a central hole and covering the bigger vessel. The enclosure temperature was kept constant by keeping water flowing through the outer jacket. In order to minimize the temperature gradients in the upper parts of the walls, the calorimeter was filled with water to the same level, nearly to the top, in all the experiments. Table I shows the results obtained.

TABLE I

Temperature of the absorbing surface		Rate of loss of heat at			Nature of the surfaces	
		43°C.	40 °C.	38·6°C.	Cooling	absorbing
(i) 34·3 °C	S	64630	41570	29540	dull white	dull black
	N	75730	45810	31340		
(ii) 33·0 °C	S	69164	41751	39966	unpolished	unpolished
	N	54890	33920	26360		
(iii) 32·2 °C	S	75587	53909	44389	polished	unpolished
	N	59570	39970	39660		
(iv) 33·0 °C	S	69164	41751	39966	dull black	unpolished
	N	74980	43550			

S = Stefen's Law (calculated) ergs/sec/cm^2/T^4

N = Newton's Law (experimental) ergs/sec/cm^2/T

It is found that in no case do the values, for the relative rates of heat loss calculated from