

great. The charts do not apply to rooms heated by radiant method such as British panel system, open coal fires and similar usages. They will probably not apply to races other than the white or perhaps to inhabitants of other countries where the living conditions, climate, heating methods, and clothing are materially different than those of the subjects employed in experiments at the Research Laboratory.

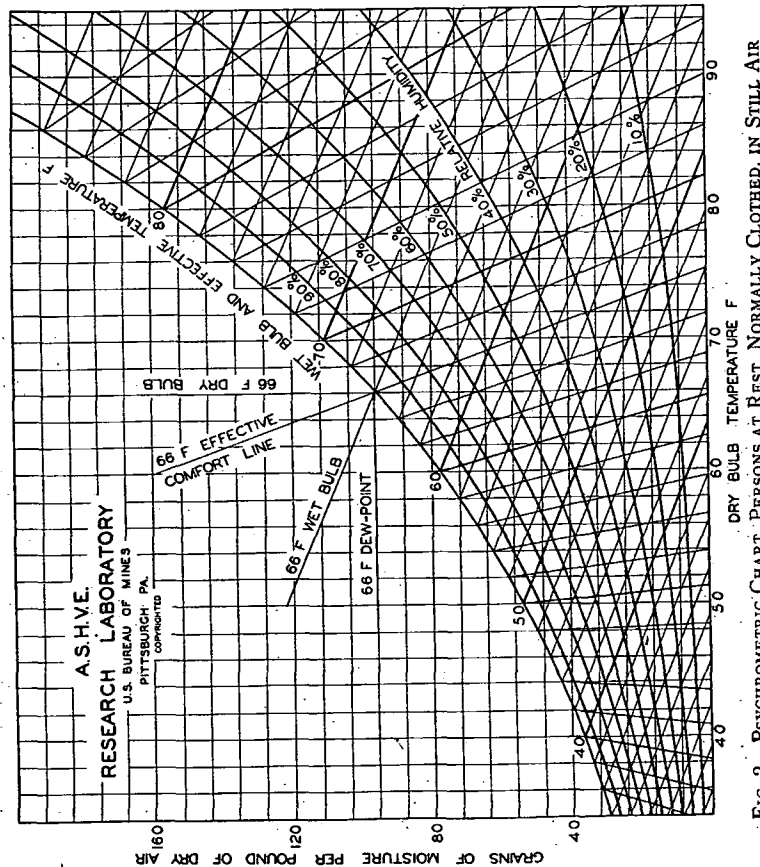


FIG. 2. PSYCHROMETRIC CHART, PERSONS AT REST, NORMALLY CLOTHED, IN STILL AIR

In rooms in which the average wall surface temperature is considerably below or above air temperature, a correction must be applied to the readings of the dry-bulb thermometer to allow for such negative or positive radiation. In Fig. 5 is given the cooling effect of cold walls as determined at the A.S.H.V.E. Research Laboratory²³ by trained subjects

²³A.S.H.V.E. RESEARCH REPORT No. 946—Cold Walls and Their Relation to the Feeling of Warmth, by F. C. Houghten and Paul McDermott (A.S.H.V.E. TRANSACTIONS, Vol. 39, 1933, p. 83).

passing back and forth from a small experimental room having three cold walls, to a control room with walls and air at the same temperature.

It can be seen in Fig. 5 that with air and walls at 70 F in the control (warm wall room), the cooling effect of three cold walls at 55 F of the experimental room was 4 F. Therefore, for the same feeling of warmth,

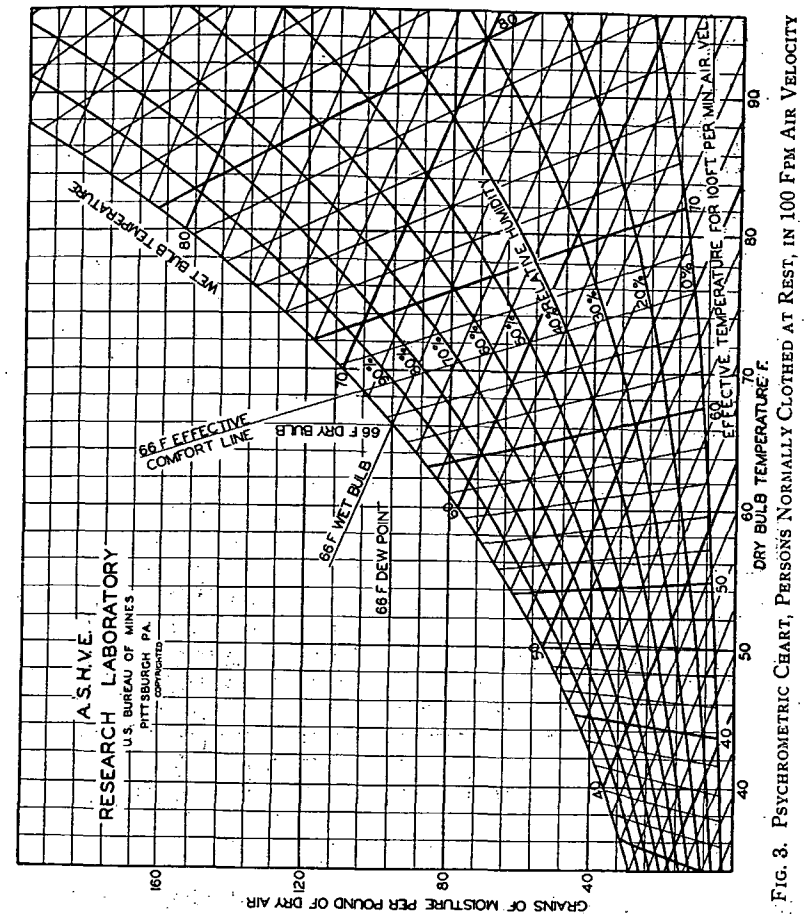


FIG. 3. PSYCHROMETRIC CHART, PERSONS NORMALLY CLOTHED AT REST, IN 100 FPM AIR VELOCITY

the temperature in the experimental room should be increased to 74 F. The reverse would hold in rooms with high-wall surface temperature; a lower air temperature would be required to compensate for positive radiations to the occupants.