FLOWERS IN OUR DWELLINGS.

Why do plants not thrive in the windows of our dwellings? is the question of many disappointed housekeepers having in vain tried year after year the cultivation of flowers to impart their beauty and fragrance to the drawing-room.—Sometimes the Florist is charged with improper cultivation, but generally the fault is ascribed to "abominable gas." Indeed many have discontinued using it on account of its imagined injurious effect upon plants, but have found that they do not thrive better with other artificial light. It may be most convenient to dispose of the gas theory of destruction here. In impure gas the element eliminated which might prove injurious to the growth of plants is sulphurous acid gas. If this was eliminated in sufficient quantity to injure plants it would also destroy animal life, at least it would prove highly injurious. The burning of a few sulphur matches would produce more injury than the burning of 3 batwing jets. If our gas was so impure as to injure plant or animal life it is only necessary to lodge a complaint with the inspector of gas, and it would immediately be remedied. There are many greenhouses lighted with gas, which is kept burning for hours. One in New York has 720 burners and yet no injury has been perceived hitherto. There is no doubt that gas charged with the noxious sulphurous acid gas would be injurious to vegetable and animal life, but Montreal gas is very free from it. What, then, is the cause of the withering of flowers when carefully tended and watered. To well answer the question, let us consider the condition of the plant itself and its relation to external atmosphere and the inner air of the house. The plant, whether Rose, Pelargonium or Heliotrope, is brought from the moist, warm air of a greenhouse and placed in a sunny window, notwithstanding the utmost care, it soon withers, its leaves decay and the plant is destroyed. If we examine the pot we find the inner surface lined with fibres of the plant which bind the earth firmly in a mass as if moulded in the pot. What has effected this change so quickly in this flourishing plant. The house is heated by a furnace or by steam or by hot water or by a base burner in the passage. In either instance the process of diffusing heat is the same. The external air finds entrance by doors or cracks, or by flues, and rushes toward the heating surface whether of steam or stove or furnace, it then ascends or diffuses itself in the apartment where it impinges on the ceiling and rolls toward the upper part of the cold window, here it cools and passes rapidly down over the pots of flowers drying them up quicker than could the Sahara sand wind. The cool air falls upon the floor and rolls along till it reaches the ascending current uniting with which it is again carried to the window to pass over the plants again, and so the work of drying goes on all day and night. The effect upon the leaves is to dry them up and cause them to fall; upon the porous pot to cause a rapid evaporation to supply which all moisture is drawn from the earth, hence the fibres seek the inner surface of the pot for moisture and this they speedily cover. The porous pot soon withdraws all moisture from the fibres and they become " burned" insuring the rapid destruction of the plant. Another effect is the drying of the earth, so that the plant derives no moisture. Such is the condition of the plant. If we examine the external atmosphere, supposing the temp. at 10° below zero we find that all moisture is frozen out of it, and is deposited as 'frost' on all conductors of heat. To show the extreme dryness of winter air at a low temperature, the most delicately polished metal exposed out door remains untarnished. This frost dried air enters our dwellings and is further rendered more capable of absorbing moisture by contact with the heated surfaces and rushes up to the flower windows sucking every trace of moisture out of leaves, earth and pots. Some plants like the German and English Ivy, the madeira Vine, Geraniums, Cacti, can withstand the fearful trial to plant life, but generally plants cannot live under such circumstances. Before alluding to the remedy, we will notice its effect upon animal life. While the dry heat is not in itself so destructive to animal as to plant life, yet it renders the condition of the air of dwellings most unwholesome and injurious to health, especially that of children. Man is capable of enduring without suffering a high degree of dry heat as is witnessed in the Turkish Bath, where the calidarum often rises to 200° Faht. and Fire Kings have endured 400° Faht. with little inconvenience. This dry heat produces an electrical condition of the atmosphere which is illustrated in the common experiment of lighting the gas with one's fingers after shuffling over a carpet. The effects upon the carpet are to set free, to float in the air the minute woolen fibres of the carpet which though invisible may be observed by holding a moist microscopic slide near the floor and placing it in the instrument. One can easily imagine the effect upon a person with delicate lungs of inhaling all day this dust of carpet fibre. If we could see it we should find the children playing on the carpet surrounded with wool dust which they were inhaling. Passing from the drawing room we find the passages filled with another kind of dust arising from earth and sand brought by feet from the street. This under the microscope appears as silica crystals and organic matter. In the sleeping apartment the air is filled with dust resembling feathers or broken hair, this we breathe in sleeping and only some fortunate current of air prevents us from suffering seriously. " Dust thou art" can be written upon any part of the dwelling, notwithstanding the utmost diligence of the housekeeper. Not only is this frost and heat dried air laden with dust highly irritable to the lungs causing varieties of pulmonary disease to adults and coughs and catarrh to children, it also causes irritation to the skin chaffing of the hands and face. Men who for the most part, are frequently out of doors do not suffer, but women confined to the house suffer in their complexion, hence the striking contrast in the rosy faces of those who live in the Maritime Provinces, where the air is always moist, to the pale faces of those who live in the dried atmosphere of Canadian houses. It requires a whole summer of sea-side and country air to restore the health and bloom lost during the winter in our air dried houses.

Furniture, wainscoting, floors, even of seasoned timber, suffer much from the dry air.

Various trades lose much from drying up of goods in the winter.

Sugar loses 2 per cent. in twenty-four hours in an atmosphere of 65° Fahrenheit
Oatmeal loses ½ per cent. " " " " "
Flour loses ¾ per cent. " " " " "
Crackers lose 3 per cent. " " " " "
Bread loses 3 per cent. " " " " "
Ham loses 3 per cent. in twenty-four hours in an atmosphere of 65° Fahrenheit
Tea loses 1 per cent. " " " " "
Tobacco loses 1½ per cent. " " " " "
Beef loses 30 per cent, in an atmosphere of 200° in 24 hours.

Leather loses from 1 to 5 per cent., depending much upon the quality and quantity of oil with which it is prepared.

All kinds of nuts, fruits, gelatines, spices, &c., lose considerably.

Furriers are the greatest sufferers from dry air, as the ends of the long furs become bent and broken and the furs soon have the appearance of "shop-keepers."

The nap upon woollens and upon mixed fabrics is raised by dry heat, and all the ends and folds of cloth exposed are injured.

All kinds of silk fabrics are quickly destroyed by dry heat, and a bundle of silk threads illustrate well the effects of electricity by simply holding one end in the hand over a current of hot air.

So quickly does tobacco absorb moisture from the air, that cut into fibres, it forms an excellent barometer, indicating approach of rain by the moisture.

When we consider that the art of the manufacturer is directed most intently to the profit derived from adding to the weight of merchandise by moisture, as in lard, butter, crushed sugar, bread, tobacco, leather, &c., and that the dry atmosphere of the retail store is every moment depriving the goods of weight, we can easily imagine why so many carry on the grocery trade at a loss, and that the only real profit is in wines and spirits. A good hygrometer would be as true a test of profits as the balance-sheet.

So far, if the above statements are correct, and the experience of every reader will confirm some of them, it appears that the dry heated air of our houses whether by steam, hot air, hot water or base burner stove is *destructive to vegetable life injurious to animal life and causes a serious loss* to the shop-keeper.

It is self-evident that to restore dry air to its natural condition is to moisten it. This seems at first sight an impossibility, for accurate calculation shows that to restore the air of a house 27 feet front, 45 depth, and 3 storeys high would require 16 square feet of evaporating service to give the moisture of the summer air. The quantity of water usually placed upon a stove to supply the moisture, holds the same relation to the quantity required that a child's thimble does to a stable bucket. In fact, generally the evaporating pots on the stove are, from not being cleaned and having the accumulated deposits from gallons of water more injurious than if there were no water. It would save human suffering, if not life; it would give us vigorous plants; it would save housekeeper's work if the halls of houses or parlors were converted into drying rooms for the laundry. It would be a great improvement if the kitchen stove with its boilers were in the hall. Since these objects cannot be accomplished, and these modes of giving a healthy atmosphere must be monopolised by the poor, let us consider the next best method. On all furnaces may be placed shallow pans. The proportion should be 1 square foot of evaporating surface for every 260 cubic feet of air to be moistened. If this cannot be accomplished, then an iron pipe, running through the furnace, should connect with on evaporating tank. The same system may be pursued in regard to base burners, a tin tank alongside the stove or at a distance may be kept boiling by this method.

A very good system of evaporation is to suspend the ends of a cloth in water. Capillary attraction causes rapid evaporation. A single sheet hung over Gould's radiator, with ends in water, will evaporate three gallons per day. Water over flues, wet cloths or sponges, or porous stone around flues will give a good degree of moisture. Moisture may be sent in the air of our dwellings until it freezes on the windows. This will indicate the requisite degree of humity.

In regard to plants, if after all these precautions they do not thrive, arrange a paper curtain to protect the plants from the draft of the hot air. Pots of flowers should be planted in zinc trays with wet moss or sand around them. These precautions will secure a healthy atmosphere, not only for children but for plants. Self-interest should induce tradesmen to look after the condition of the atmosphere, which has so much to do with the profit and loss on the goods affected by it. So far, we have spoken of the necessity of a good atmosphere for the safety of our lives and property. There is still another aspect, a summer-like atmosphere in our dwelling will contribute to our comfort and enjoyment.

L. G. S.

A MODERN 'SYMPOSIUM.'

THE SOUL AND FUTURE LIFE.

Death is a phenomenon; but are we phenomena?

The question of immortality seems, philosophically speaking, very much to resolve itself into that of personality. Are we persons, spirits, or are we things? Perhaps we are a loose collection of successive qualities? That seems to be the latest conclusion of Positive, and Agnostic biological philosophy. The happy thought which, as Dr. Stirling suggests, was probably thrown out in a spirit of persiflage by Hume has been adopted in all seriousness by his followers. Mr. Harrison is very bitter with those who want to explain mental and moral phenomena by physiology. But, as Professor Huxley remarks, he seems in many parts of his essay to do the same thing himself. What could Buchner, or Carl Vogt say stronger than this? 'At last, the prick of a needle, or a grain of mineral, will in an instant lay to rest for ever man's body and its unity, and all the spontaneous activities of intelligence, feeling, and action, *with which that compound organism was charged*.' (June, p. 627.) Again, he says the spiritual faculties are 'directly dependent on physical organs'—'stand forth as functions of living organs in given conditions of the organism.' Again: 'At last the man Newton dies, that is, the body is dispersed into gas and dust.' (July, p. 836.) Mr. Harrison then, though a Positivist, bound to know only successive phenomena, seems to know the body as a material entity possessed of such functions as conscience, reason, imagination, perception—to know that Newton's body thought out the Principia, and Shakespeare's conceived Hamlet. Indeed, Agnosticism generally, though with a show of humility, seems rather arbitrary in its selection of what we shall know, and what we shall not: we must know something; so we shall know that we have ideas and feelings, but not the personal identity that alone makes them intelligible, or we shall use the word, and yet speak as if the idea were a figment; we shall know qualities, but not substance;