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# THE SENILE HEART.

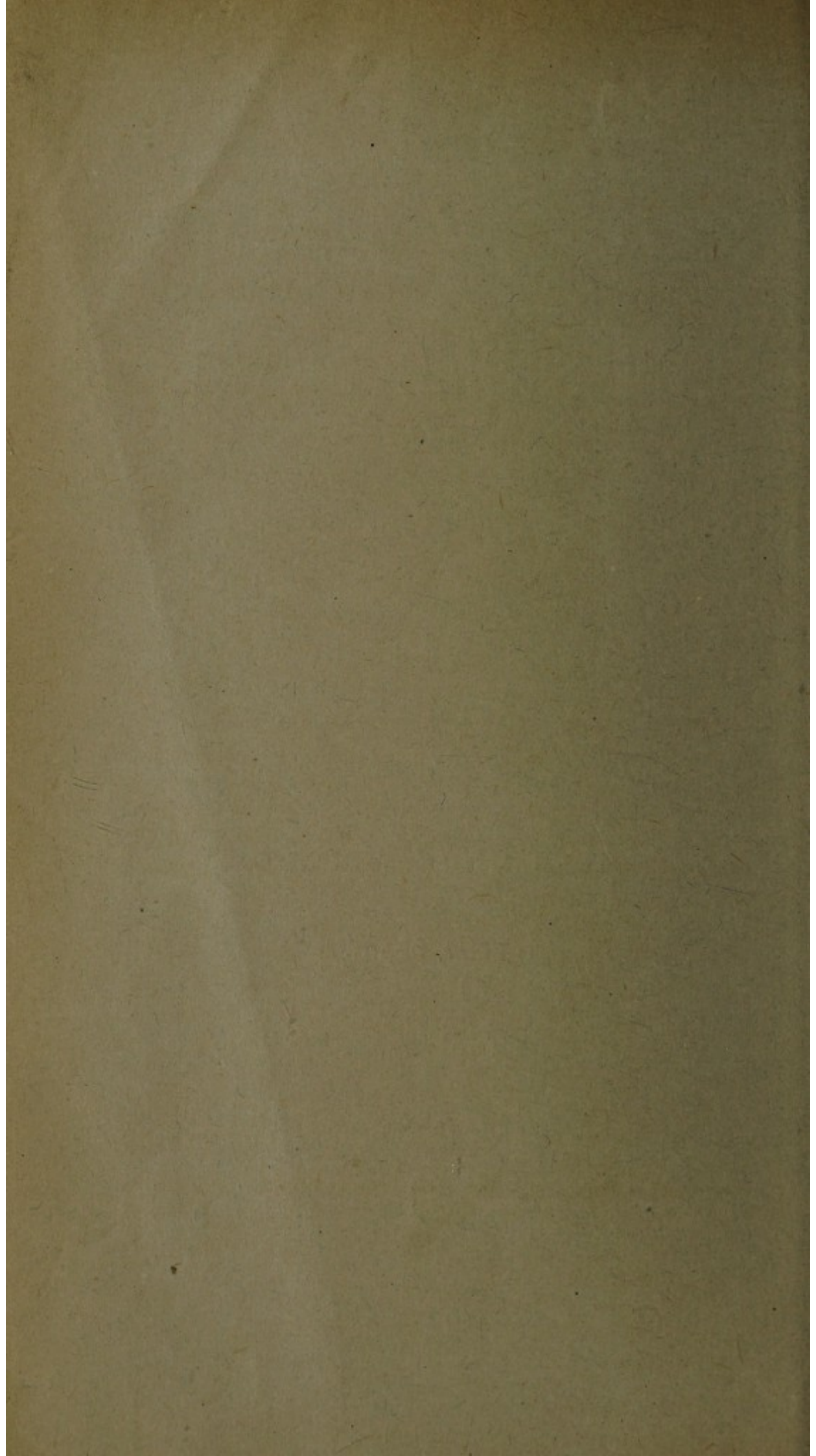
Its Pathology, Therapeutics and Hygiene.

—BY—

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El autor

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THE SENILE HEART, ITS PATHOLOGY, THERAPEUTICS  
AND HYGIENE.

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BY A. MUNOZ, M. D., HEAD PHYSICIAN AT THE KING'S HOSPITAL,  
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DE PARIS, ETC.

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For the COMPEND, exclusive.

PATHOLOGY.

The loss of elasticity of the arteries ; the diminution of the capillary area by the withering of many of the small vessels, which is noticeable in the atrophy from which the organs and fibres of the body suffer in old age ; the dilatation of the vessels of the venous system ; the increase of diameter which is observed in the aorta in relation to the pulmonary artery, which latter was wider than the former during the first period of life ; the difference in the blood-pressure, which for this reason is fixed and verified by the *sphygmomannometers*, increasing in the aortic system and diminishing in that of the pulmonary artery ; the slowness of the fluxes ; the venosity of the blood, by reason of the venous artery and difficulties of hematosi ; and, as a consequence of this, the general debility of the whole organism which is thus nourished by a liquid as little nutritive as oxygenated, these are, besides others which I do not not enumerate, conditions which must all be taken into account at the bedside of the patient in order to establish a good and rational therapeutic of the senile heart, which if not a well determined nosological entity, as it may be the cause of many, is a clinical type of the first order, well worthy of consideration as a basis of general indications.

From the predomination of these and other causes, either by direct action upon the blood, heart and vessels, or by an



action upon the innervated system of this organ arise two opposite clinical phenomena, which frequently accompany and characterize the senile heart: they are *tachycardia* and *bradycardia*.

*Tachycardia* may be either *simple* or *paroxysmal*. In the first case, the most common of all, the pulse is rapid, but regular and generally weak, continuing thus during many months and even years, without any remarkable alteration being noticed in the general health of the individual.



Fig. 1.—Simple Tachycardia.

In the second case, of much less frequent occurrence, *tachycardia* presents itself in the form of fits or paroxysms which generally last during a few days, the pulse returning to its normal condition, when this veritable tempest is past, during which it arrives at as many as 200 and more beats a minute in some cases.

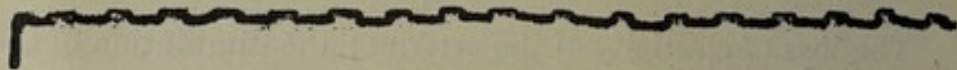
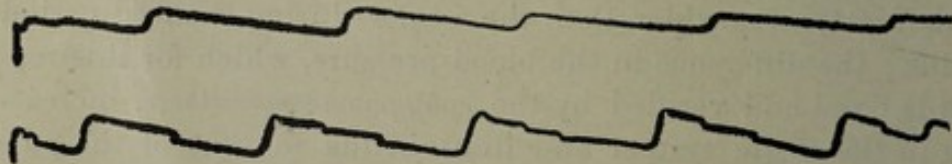


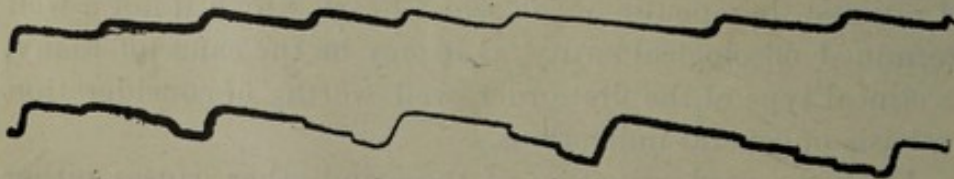
Fig. 2.—Paroxysmal Tachycardia.

In *bradycardia* two varieties are also to be remarked, in the first and commonest, the heart and pulse are slow, but the arterial beats are regular.



Figs. 3 and 4.—Bradycardia. Sketch of first variety.

In the second variety the pulse is slow, weak, and shows clearly defined irregularities; at every second or third beat the arterial pulsation is so weak that it is often not perceptible to the touch, or fails entirely, as is seen by the following sketches:



Figs. 5 and 6.—Bradycardia. Sketches of second variety.



*Simple Tachycardia* is, as has been said, the commonest phenomenon of the senile heart ; afterwards comes, as regards frequency, the two varieties of *bradycardia* ; *paroxysmal tachycardia* is, lastly, the least common of all.

Thus, out of a total of 100 old people, whom I now have under examination in the hospital of which I am director, and of whom seventy have passed their seventieth year, and the thirty remaining their sixtieth, there are :

Number of Old People		Number of Pulsations
14	Whose number of beats exceeds.....	100
7	“ “ “ “ “ .....	90
73	“ “ “ “ oscillates between 60 and 90	
5	“ “ “ “ only arrives at.....	56
1	“ “ “ “ is only.....	44
<hr/> 100		

#### THERAPEUTICS.

Although but little varied, the therapeutics of the *senile heart* do not fail to afford the practitioner valuable information which he will often find of great service.

*Blood Letting.*—It is not by preference nor by any fancied superiority that I place blood-letting at the head of this medication, it is because this means is too much forgotten by the practice, although it is very frequently a powerful and unique aid to pharmacological agents, and is at other times a precious and vital indication.

On several occasions I have had recourse to local blood-letting, and also to bleeding, in order to combat and overcome cardiacal disorders in old people, with satisfactory results. Internal hemorrhages and, particularly, visceral congestions are rapidly avoided or overcome by this means, whether they arise from venous ecstasy, or from rapid and extensive disequilibrium of blood-pressure in the two systems of vessels, whose alterations occasion in their turn important functional complications in the hearts of old people, manifested most frequently by *paroxysmal tachycardia*, less often by *bradycardia*.

The subtraction of a certain quantity of blood discharges the venous system of its surplus, by which means a freer and normal circulation is obtained ; the arterial and venous pressure is thus regulated, which should always be tested by means of Bach's *sphygmomanometer* or, better still, by that of Potain ; and as with the blood is eliminated a regular quantity of car-



bonic acid which it contained in excess ; and the circulation in these vessels is performed more rapidly, the changes are facilitated, thus affording the fluid better conditions for the nutrition of the organs and a stimulus to the heart itself, whose alterned functions are regularized, as I have been able to appreciate in cases in which blood-letting gave a sure indication of the condition and a unique one, in my opinion.

To restrain is not to proscribe ; and if the abuse of this therapeutic means has done great harm at some epochs, fortunately now past, we must not fall into the opposite excess.

Age is not an obstacle, when there are real and urgent indications, because the first is always the vital indication, and because aged persons bear blood-letting very well when there is occasion for it.

*Digitalis*.—This is undoubtedly the head cardiacal tonic and the best of the medicaments used in the therapeutics of the *senile heart* ; when there is arithmia, when the cardiacal or arterial pulsations are weak and very frequent ; when the pulse is slow ; when the venous pressure is much higher than the arterial, and always when with these conditions the muscular fibre of the heart and healthy state of the kidneys are well preserved, digitalis renders great service, and in a considerable number of cases I have had recourse to this remedy, to which I am indebted in many cases to the suppression of heart affections and cardiacal alterations among old people.

*Tachycardia*, a phenomenon attacking so frequently the aged heart, and which, when paroxysmal, endangers the lives of the patients, is generally advantageously treated by this means.

KING'S HOSPITAL.—PAROXYSMAL TACHYCARDIA.  
SKETCHES OF COURSE AND TREATMENT.

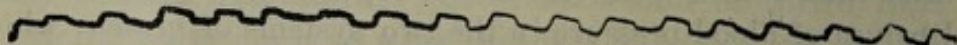


Fig. 7.—Leeches applied at anus. Infusion of digitalis at 1 per 100.



Fig. 8.—Subcutaneous injection of a hyphodermic Tabloid of Digitalin, 1-100 gr.

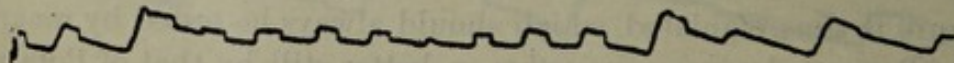


Fig. 9.—Tabloids Tincture Digitalis. (5 minims per dose.)



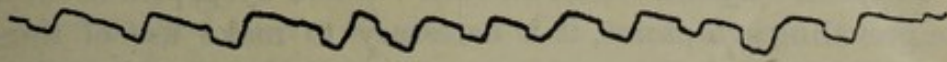


Fig. 10.—All treatment suspended.

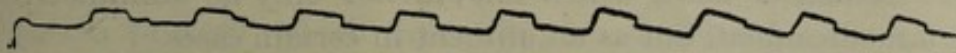


Fig. 11.—Cure.

The principal preparations of which I make use, generally, are these : *infusions*, at one per cent., with a powder of digital leaves ; *compressed tabloid*, each one of which contains a small quantity (one to five minims) of *standardized tincture of digitalis*; and *hypodermic tabloids of digitalis* ( $\frac{1}{100}$  gr.). I resort to these latter in urgent cases or in gastric irritability; to the infusion in ordinary cases, and I leave the compressed tabloids for those patients whose cardiacal changes do not hinder them from pursuing their ordinary life or from going out-of-doors, since they are well-formed and easily administered.

*Caffeine—Coffee.*—When the muscular fibre of the heart is not perfect, or when the indications of the tonics of this organ are urgent, I use caffeine as a substitute for digitalis, administering according to the urgency of the case *caffeine sodio salicylate hypodermic tabloids* dissolved in water and injected subcutaneously, or *tabloidi caffeine citrate*, (2 gr.), or granular effervescent citrate or hydrobromate of caffeine (Bisop's), with satisfactory results.

Among those suffering from bradycardia and in general when a senile heart is accompanied by great atony of the whole organization, with very weak pulse and marked anæmia, especially of the brain, I always order my patients one or two cups of coffee, daily, after meals, by which they are greatly comforted, and which is a good antidote for the sleeplessness obstinate which is generally a characteristic of this state.

*Strychnine, Nux Vomica.*—If the atony is localized in the digestive passages, showing itself by want of appetite or by slowness and difficulty of digestion, I order an addition to the coffee of three to five drops of *alcoholic tincture of nux vomica*, or I have recourse to the *compressed tabloids of tincture of nux vomica*, or to the *hypodermic tabloids of nitrate or sulphate of strychnine*, which preparation either alone or united with those of digitalis produce the best results when the circulation is slow and the pulse weak.



*Pepsine—Zymine—Malt Extract.*—When dyspepsia is one of the prevailing symptoms, it is necessary to make use of these preparations, and I have many times employed successfully pepsine and zymine (Fairchild's) preparations, as well as Kepler's extract of malt, which should not only be administered as a medicament, but as an aliment in certain cases.

*Soda and Potash Bicarbonate—Rhubarb.*—The above mentioned local symptoms of the digestive tubes being caused by the circulatory alterations of the senile heart, require alkaline treatment, associated or not with rhubarb, when there is torpor in the intestinal movements. In such cases I employ the potash or soda bicarbonate tabloids, or those rhubarb and soda tabloids, by reason of their easy administration and certain efficacy.

*Nitrate of Amyl—Trinitrine.*—One of the complications which frequently accompany the senile heart is *angor pectoris*, for the combat of which it is necessary to use the *tabloidi trinitrine* ( $\frac{1}{50}$  gr. vel  $\frac{1}{100}$  gr.), *hypodermic tabloids of trinitrine*  $\frac{1}{200}$  gr.) or *tabloidi trinitrine et amyl nifrits* which are very useful preparations by reason of their exact dosification, which is a great difficulty under any other pharmacological form, when not in inhalation, for which there is not always necessity.

#### HYGIENE.

*Aliments—Drinks.*—The alimentation should be cared for and well regulated, since the senile heart is frequently accompanied by dyspepsia and atony of the digestive tubes which are sometimes the cause of irregularities of the circulation, and which may aggravate the changes which occur in this state.

Generally the repasts should be moderate, in number of not more than three a day, as a rule, the principal or most abundant being at midday, taking into consideration the fact that the digestion is slow and laborious in these subjects. The most suitable aliments are, as a rule, milk, eggs, green food (except those considered as causing flatulence), tender meat, and a little, but very little, farinaceous food. Neither should the liquids given be very abundant, among the aromatic ones, *chocolate*, and sometimes *tea* or *coffee*, either alone or with milk according to circumstances.

*Alcoholic Drinks* should be generally used at meals, preferably *wine*, and at rare intervals *brandy*, in small quantities (a spoonful), added to some aromatic drink. Of the wines, those of little alcoholic richness should be used.

*Tobacco.*—The use of tobacco should be prohibited or at least restricted among old people with weak hearts, as the pernicious influence of the abuse of this product on the heart is well known.

*Exercise.*—There is nothing truer or more exact than the Spanish proverb which says, "*la vida de los viejos esta en los talones,*" since moderate and daily exercise activates their circulation and, by this reason, all the functions, particularly those of the digestion, on which depends the working of the whole organism, and the perfection of the organical depuration.







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