5-1936

Osteopathic Digest (May 1936)

Philadelphia College of Osteopathy

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The photographer resorts to artifice to project a conception of new wings on the college building

OSTEOPATHIC DIGEST

ALUMNI NUMBER

MAY 1936
Plan Now to Attend the

ALUMNI DINNER
AND REUNION

AT THE

PENN A.C.
18th AND LOCUST STREETS

$1,000,000

CLASS REUNIONS
'01 '06 '11 '16 '21 '26 & '31

ALUMNI AWARDS
GOLF TOURNAMENT RETURNS
INSPIRING MESSAGES
ENTERTAINMENT
DANCING

MAY 29, 1936

THE BIGGEST EVER

Reservations for 500 will be made

Let's Go For P.C.O.

P.C.O. Alumni Association
THE general purpose of the Annual-Giving Fund is to provide the College with an unrestricted income which may be applied wherever the most imperative need exists. This year, which marks the inauguration of an organized plan to secure funds over a period of years, it is proposed to devote the gifts almost entirely to the creation of an Endowment Trust Fund.

It is the opinion of the Board of Trustees of the College that the solution of P. C. O.'s chief problems, and in fact the whole future of the College, depends mainly on just one thing: the acquisition of adequate endowment. With this at their command they can take all the forward steps they have in mind for a better College; without it these steps are impossible.

No more vital and energizing use of funds could be made of the annual gifts of the alumni and friends than that which will enable the College to take a place with institutions of the kind.

Surely there could be no purpose better calculated to provoke a lively interest and generous response. A goal of $60,000 has been set for this initial year's effort. This represents the interest of more than $1,000,000 of invested funds. Certainly it is reasonable to anticipate that 5,000 alumni and friends will have contributed fifty to sixty thousand dollars to the Endowment Trust Fund by the end of the year. And that with steady, constant devotion and a widespread increase of interest the $1,000,000 goal will be a reality long before the 50th Anniversary Year.

With a determined staff and faculty, with an inspired student body, with active committees functioning, with a splendidly organized Alumni Association, with class agents moved to go to work, with publicity carefully prepared, this great objective can be achieved without burdening anyone, for each is merely asked to make a gift according to his present circumstances and obligations. Through the method of this united effort, tremendous strength can be added to the College.
$1,000,000 IS NEEDED FOR PHILADELPHIA'S

The "Annual-Giving" Plan has been Instituted with 100 Per Cent Subscription by do their part. Alumni and General Support will be Solicited in Co-oper

CONFIDENCE EXPRESSED ON ALL SIDES THAT THE BE MOVED TO ENDOW THIS MERITORIOUS INSTI

ANNUAL GIVING — It's the Keystone! That's the slogan of P. C. O.'s drive for endowment, new buildings and research funds. It was announced on Founders' Day, February 22nd when a Campaign for $1,000,000 was launched by the Board of Directors of the College. The program calls for a 13-year drive, culminating on the fiftieth anniversary of the Founding of the College. The Annual-Giving method was adopted by the staff and endorsed by the Alumni Association.

What has happened to date? One hundred thousand dollars of the goal has already been underwritten by the staff of the institution. The list of the staff has been swept clean. Next, the student body of the College have literally electrified the Dean and the Steering Committee of the Staff by their splendid and enthusiastic loyalty and support of the Annual-Giving Program. Their voluntary subscriptions, intended to be continued yearly during the 13-year period, are estimated to amount to the equivalent of $50,000 of endowment. It took courage as well as genuine interest in the College and Hospital to bring about such subscriptions. They were made in the deep conviction that the present campaign is vital and that Philadelphia will make in the next decade or so the most notable advances and achievements in the history of osteopathy.

Osteopathy long ago passed the experimental stage in Philadelphia. It has been accepted as an established profession contributing vitally to the relief of human suffering and the saving of human life. The College and Hospital enjoy the respect and patronage of the community. They are destined to be great factors in the advancement of the profession. But they have reached that crucial point in their development where they must expand to quarters both adequate and worthy of their dignity. They must be secured and fortified with endowment funds. As Dean Holden has so ably said: "It is essential that the Institutions bolster their assets along with their standards." For this reason, the support of the entire profession of the East is anticipated.

ANNUAL GIVING ONLY FIRST STEP IN A COMPREHENSIVE PLAN

The program of Annual Giving is no way conceived to be the final instrument in P. C. O.'s 13-year effort to secure capital as well as unrestricted funds. Bequests under Wills, income under Deeds of Trust and the delivery of cash through the proceeds of Life Insurance policies, and the stimulation of special gifts of money and property in a public drive when such is deemed opportune,—these are also contemplated in the broader program.

The great need for endowment was in the minds of the Board of Directors in 1929 when they launched the $1,030,000 campaign. However, need for dignified and thoroughly modern edifices proved paramount. A plain duty, therefore, remains on the calendar of the Board for fulfillment at the earliest possi-
the Staff of the College and Hospital. Students of the College have Volunteered to

PLAN IS SOUND AND THAT THE PROFESSION WILL
TUTION WITH THE FULLEST POSSIBLE PRESTIGE.

able moment. These men, a
group of 20, have given much of
their time and attention to the
worrisome details of administering
the trusteeship of this insti-
tution. They have resolutely
started a Trust Fund to form the
nucleus of a new and large en-
dowment fund. The staff of the
institution, followed by a spir-
ited student body movement,
through a virtually one hundred
per cent subscription in their
own ranks, have responded al-
most to the limit. These men
and women, young and old alike,
have an active, up-to-the-min-
ute interest in the Philadelphia
College of today. Their volun-
tary action in connection with
the Fund movement will cause
a widespread increase of interest
in the College on the part of the
alumni body and the members
of the osteopathic profession
everywhere, particularly in the
East.

Endow—Then Build!

Someone has said that we en-
dow men—not buildings. “En-
dowment means men. If we are
going to be able to pay adequate
salaries and provide funds for
the proper operation of our vari-
ous departments our income
must be greatly increased.”

We need only glance at the
figures of the endowed colleges
and universities along the East-
ern seaboard to get a degree of
perspective about our own needs.
Within a radius of 325 miles,
using New York as a center, are
some fifty institutions of higher
learning with a total endowment
of almost $600,000,000.

During the years following the
great War there was a tremen-
dous increase in endowments—
an increase undoubtedly fos-
tered by the exemption of be-
quests from the income tax.
Thousands of persons gave lib-
erally to educational institu-
tions. The days of depression
with their resultant capital losses
have changed the situation and
the outlook. By reason of
shrinkage in individual fortunes,
gifts will be more modest—but
there must be a larger number
of small gifts to balance the fig-
ures. That is wherein the An-
nual-Giving plan is ideal. It's
the Keystone! It is based on
democratic giving. There is an
opportunity for everybody to
contribute. There will be noth-
ing of the theatrical to it such
as the announcement of a single
large bequest with an enthusi-
asm that soon subsides. There
will be a steady, constant devo-
tion and interest on the part of
all. Experience, gained from
operation of the plan in several
institutions, has definitely shown
that the total fund is directly pro-
portionate to the number of
participants, irrespective of the
amounts of individual gifts. This
fact should be borne in mind by
those perforce limited, but not
therefore insignificant.

The Philadelphia College and
its Hospital are running on a
balanced budget. They are
operating practically at capac-
ity. They need expanded quar-
ters. They require increased
assets and unrestricted funds.
They need friends who have
faith in their future. They need
endowment. And the order is:
“Endow—Then Build!”
THE ALUMNI ANSWER THE CALL

By DONALD B. THORBURN, D.O., President, Alumni Association

ONE of the most thrilling of the many experiences that have attended the development of the Philadelphia College of Osteopathy is the concerted response of the alumni to its call for assistance.

Service to one's alma mater seems to bring a feeling of happiness to the giver that ordinary dedication does not apparently give. Probably the years of pleasant study under friendly teachers, the "fellowship of kindred minds," the student activities and the development of a knowledge and a power to help one's fellowmen, have given in four years the worthwhile experiences of a lifetime. All the hopes and fears and struggles and final successful accomplishment of a lifetime have been distilled into the concentrate that was our scholastic life at the Philadelphia College of Osteopathy.

When a man has had an experience of this sort it is fundamental with him that he should want to acknowledge it. It was this human tendency that made men build altars and temples and erect piles of stones to mark the place of climatic experience. In history we read of this again and again.

We of Philadelphia have had this experience. Certainly the gift of knowledge that has been given to every student of P. C. O. is as definite as the removing of scales from men's eyes and the demons from their minds. The removing of the shackles of ignorance is as great a liberation as setting free a prisoner.

In 1929 an opportunity was accorded those to whom the college had given much, to make return. Our present college and hospital is the result. Every brick and stone, every bed and every instrument attest to the loyalty and the gratitude of those whom the Philadelphia College and Hospital have benefited.

Now we have come to another point in the road. We have come to a place where we can sit and rest on our laurels or where we can, by a little further effort, place the Philadelphia Osteopathic College and Hospital on a definitely higher plane than it is now. This can be done with hardship to no one.

The resolution of the Board of Directors relative to the thirteen-year plan is one that should stir the hearts of all of us. Here is the last paragraph of their published resolution:

The call is therefore made upon all persons associated with these institutions, the alumni association, the osteopathic profession at large, the public of Philadelphia and environs, and friends and supporters everywhere, to subscribe to and to support this movement wholeheartedly.

And what followed? It was proposed that the faculty and staff of the college and hospital hold themselves responsible for the first 100,000 of the required million. Their answer was one to stir the emotions. Without the slightest hesitation these men and women who are already giving unstintedly of themselves and their time, now offer their money. Remember this, that the practices of these physicians are limited by their teaching. Remember too that those who are paid instructors do not find it possible to approach the income of the practicing physician yet are performing a service which is the life blood of osteopathic practice. Yet one and all these devoted people stepped forward and each has given in proportion to his means. Everyone has given. Every alumni will follow suit.

As the colleges go so goes Osteopathy. That is an admitted fact. What is now becoming just as freely admitted is that as the Philadelphia College goes, the other colleges follow. In the last few weeks the writer has sat in various meetings having to do with the development of Osteopathy throughout the country. He was astonished at the frankness and frequency with which the statement was made, that the country looks to Philadelphia for leadership.

We talked recently with a physician from the West. A man just finishing a tour of the colleges as part of his official duties. He expressed complete amazement at the high development of all phases of osteopathy and osteopathic organization that he saw at our college. He frankly stated that nothing in the country could approach the place the Philadelphia College has attained under the leadership of Dean Holden.

Experiences like this make one realize the power that P. C. O. has become. It is the pacemaker for Osteopathy. We are graduates of this school. We have received the training and the inspiration that come from such an institution and we
have enjoyed the prestige that graduating from such a place confers. For this we paid our tuition. What we maintain is that mere tuition doesn’t come even close to paying for these things. Such privileges also carry the privilege of assisting the institution that gave us our Osteopathy.

It is an unheard of thing to have a college and hospital the size of ours without a large endowment fund and a definite plan of alumni support. It has had none until now. That the college has reached its present high position without this help speaks volumes for the Dean, the faculty and the staff. We as alumni can see that this condition shall no longer obtain.

Here is another paragraph from the resolution of the Board of Directors:

Whereas, there appears a widespread and healthy demand upon this institution for the maintenance of higher standards, for the careful selection of students, for post-graduate opportunities, for osteopathic research, for augmented hospital teaching beds, for increased scope of libraries, museums, and laboratories, for fellowships, scholarships, endowed beds, etc., and,

Now as far as the alumni is concerned or in fact anyone else, there is to be no campaign or a great to do, designed to get people to give amounts that they can’t afford. Far from it. We want people to give as the benefits they have received at the hands of P. C. O., allow them to. “Give each according to his purse,” and do it every year. Only in this way can we make return to the college that sent us proudly into the profession. In this way we can carry the torch of Osteopathy. As the colleges go so goes Osteopathy, and as we give so goes P. C. O. the pacemaker.

ALUMNI DAY PROGRAM

HE date is May 29th, 1936. The Program: 10.30 A. M.—Annual Commencement Exercise; 1.00 P. M.—Golf, Llanerch Country Club; 7.00 P. M. Dinner, Penn A. C.

Gatherings of Alumni each spring have become a national custom. They are an American institution just as sentiment is an American characteristic. The traditional time for Alma Mater based on the ties of early friendship, and on the memories of the happy days of youth, continues and will never fade.

The Alumni Association of the Philadelphia College was organized in 1902. At that time there were only 19 graduates of the College, yet there is to be found recorded in the minutes of the earliest meetings, evidences of zeal and enthusiasm and high resolves for service to the College.

With membership in the Alumni Association multiplied many times over that of 1902, Alumni Day should hold a special significance for all who would show their allegiance to P. C. O. as an institution devoted to intellectual and moral ends.

It is fitting to emphasize that this year there will be the launching of a movement, in the form of an "Annual Giving Plan" whereby the College will be provided with unrestricted funds which may be applied whenever most imperative need exists. A cardinal need is ostensibly an endowment fund. To a great extent the forward movement of the College, both in quality and degree, hinges upon its creation. Surely there could be no purpose better calculated, this year, to provoke a lively interest and generous response. Certainly it is reasonable to anticipate that from P. C. O.’s 1200 alumni, together with hundreds of other friends and patrons of the institution, total contributions of $60,000 to $75,000 will be realized during the year 1936. This is a sum equivalent to $1,000,000 of endowment—to be realized in the purposeful 13-year drive that has been announced.

During the day the Alumni Golf Tournament will be held under the capable direction of Dr. Carlton Street and his committee. They have collected an unusual group of prizes for this tournament which will be held on one of Philadelphia’s finest courses. The prizes will be awarded that night at the Alumni Banquet.

Dr. O. J. Snyder, Founder of the College will deliver the Commencement address.

In the evening a great event will take place. That event is the Alumni Banquet. It will be the finest in the history of the Philadelphia College. It will be held at probably the best place in Philadelphia for a banquet and dance, the Penn Athletic Club of Charity Ball fame. The alumni award will be conferred on the alumnus who in the opinion of the special award committee, has done the most for Osteopathy during the past year. The golf prizes will also be awarded.

We will have one speaker of national reputation. We will have music and dancing. That sounds like a fine evening’s entertainment. It is. But the greatest thrill of all comes in meeting old friends once again. Those friends who with yourself have helped to make osteopathic tradition. The friends who studied with you, sat with you in the classroom, prompted you when you almost remembered the answer—but didn’t quite, and played on the school teams with you. You can see them all at the Alumni Banquet on Friday, May 29th at the Penn Athletic Club.

Come one. Come all.
CLASS AGENTS APPOINTED

The 1936 Alumni Annual Giving Fund will be formally inaugurated at the dinner meeting of the Alumni Association at the Penn A. C. on May 29th. Actual solicitation of funds will be instituted at that time. As is customary in all institutions carrying on similar endeavours, class agents will share some of the labor falling upon the shoulders of the Alumni Association. They will establish correspondence with classmates from various sections of the country and even foreign countries. Already one class agent, maybe a bit precociously, has made a strike. The following was received by him:

"I am greatly indebted to you for your letter which strikes me at the right point. Certainly I want to give my bit. Unfortunately we have had very hard times out here, so I am unable to make a contribution this year of the size I feel I should. All I can do is to enclose a check for $20.00—which please use toward the Annual Fund."

President D. B. Thorburn has named the following to act as agents for their respective classes:

<table>
<thead>
<tr>
<th>CLASS</th>
<th>YEAR</th>
<th>NO. IN CLASS</th>
<th>CLASS AGENT</th>
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<tbody>
<tr>
<td>1</td>
<td>June, 1900</td>
<td>2</td>
<td>Gene Banker</td>
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<td>2</td>
<td>Feb., 1901</td>
<td>6</td>
<td>H. E. Leonard</td>
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<td>3</td>
<td>June, 1901</td>
<td>11</td>
<td>O. C. Mutschler</td>
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<td>4</td>
<td>Feb., 1902</td>
<td>15</td>
<td>Addison O'Neil</td>
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<td>5</td>
<td>Feb., 1903</td>
<td>3</td>
<td>E. M. Downing</td>
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<tr>
<td>6</td>
<td>June, 1903</td>
<td>5</td>
<td>T. D. Lockwood</td>
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<tr>
<td>7</td>
<td>Feb., 1904</td>
<td>8</td>
<td>Morris Brill</td>
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<td>8</td>
<td>June, 1904</td>
<td>17</td>
<td>W. O. Galbreath</td>
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<td>9</td>
<td>Feb., 1905</td>
<td>10</td>
<td>W. A. Sherwood</td>
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<td>10</td>
<td>June, 1905</td>
<td>10</td>
<td>John A. Cobalan</td>
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<td>11</td>
<td>Feb., 1906</td>
<td>16</td>
<td>Ira F. Yeater</td>
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<td>12</td>
<td>June, 1906</td>
<td>7</td>
<td>S. Agnes Medlar</td>
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<td>13</td>
<td>Feb., 1907</td>
<td>9</td>
<td>H. V. Durkee</td>
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<td>14</td>
<td>June, 1908</td>
<td>11</td>
<td>Thomas J. Ryan</td>
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<td>15</td>
<td>Feb., 1909</td>
<td>5</td>
<td>E. L. Thurman</td>
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<td>16</td>
<td>June, 1909</td>
<td>21</td>
<td>Harry C. Osborn</td>
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<tr>
<td>17</td>
<td>Feb., 1910</td>
<td>5</td>
<td>C. D. B. Balbinie</td>
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<td>18</td>
<td>June, 1910</td>
<td>29</td>
<td>William J. Furey</td>
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<td>19</td>
<td>1911</td>
<td>30</td>
<td>Thomas H. Martens</td>
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<td>1912</td>
<td>44</td>
<td>Edna F. Beale</td>
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<td>1913</td>
<td>4</td>
<td>H. V. Hilman</td>
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<td>1914</td>
<td>12</td>
<td>Paul R. Thomas</td>
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<td>H. W. Evans</td>
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<td>Fred A. Belland</td>
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<td>11</td>
<td>Michael Pinto</td>
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<td>26</td>
<td>1918</td>
<td>13</td>
<td>Earl D. Bryant</td>
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<td>27</td>
<td>1919</td>
<td>9</td>
<td>Ralph Fischer</td>
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<td>28</td>
<td>1920</td>
<td>21</td>
<td>E. O. Holden</td>
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<td>1921</td>
<td>24</td>
<td>Paul T. Lloyd</td>
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<td>10</td>
<td>J. E. Leuzinger</td>
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<td>1923</td>
<td>52</td>
<td>R. W. Stollery</td>
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<td>E. Cressman</td>
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<td>H. S. Liebert</td>
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<td>1926</td>
<td>80</td>
<td>O. Dressler</td>
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<td>1927</td>
<td>86</td>
<td>John Gauer</td>
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<td>36</td>
<td>1928</td>
<td>71</td>
<td>Guy Merryman</td>
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<tr>
<td>37</td>
<td>1929</td>
<td>40</td>
<td>B. T. Bailey Fluck</td>
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<tr>
<td>38</td>
<td>1930</td>
<td>43</td>
<td>Harry H. Davis</td>
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<tr>
<td>39</td>
<td>1931</td>
<td>71</td>
<td>H. W. Christensen</td>
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<tr>
<td>40</td>
<td>1932</td>
<td>76</td>
<td>Stanley Griese</td>
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<tr>
<td>41</td>
<td>1933</td>
<td>68</td>
<td>Glen W. Cole</td>
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<tr>
<td>42</td>
<td>1934</td>
<td>82</td>
<td>Joseph Snyder</td>
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<tr>
<td>43</td>
<td>1935</td>
<td>92</td>
<td></td>
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<tr>
<td>44</td>
<td>1936</td>
<td>95</td>
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</tr>
</tbody>
</table>

ALUMNI REPRESENTATIVES

The following is a list of Doctors who have made known their acceptance as representatives in their various State Osteopathic Societies:

Dr. James T. Berry, 478 Farmington Avenue, Hartford, Conn.—Connecticut Osteopathic Society.

Dr. Fred B. Cushman, Franklin, Maine—Maine Osteopathic Association and Eastern Maine Osteopathic Society.

Dr. Richard J. Dowling, 16 Bull Street, Newport, R. I.—Newport County Osteopathic Society.

Dr. C. Wallace Evarts, 832 N. Highland Avenue, Atlanta, Ga.—Georgia Osteopathic Association.

Dr. C. O. Gaskell, 128 Merchants Row, Rutland, Vt.—Vermont Osteopathic Association.

Dr. Stephen B. Gibbs, 933 Lincoln Road, Miami Beach, Fla.—Dade County Society of Osteopathic Physicians and Surgeons.


Dr. George E. Heibel, 817 Guaranty Bank Building, Lexington, Ky.—Kentucky Association of Osteopathic Physicians and Surgeons.

Dr. Henry E. Leavitt, 476 Main Street, Stoneham, Mass.—Mystic Valley Osteopathic Society of Massachusetts.

Dr. Sherman A. Lewis, New Bern, N. C.—N. Carolina Osteopathic Society.

Dr. Basil F. Martin, Snell Bldg., St. Petersburg, Fla.—Pinellas County Osteopathic Association.

Dr. Paul C. Mengle, 528 Elm Street, Reading, Pa.—Lehigh Valley Osteopathic Society.

Dr. Addison O'Neil, Box 267, Daytona Beach, Fla.—Volusia County Osteopathic Association.


Dr. M. C. Pettapiece, 1 High Street, Camden, Maine—Maine Osteopathic Association.

Dr. Gerald A. Richardson, Mount Dora Hospital, Mount Dora, Fla.—
Forty-fourth Commencement to Show Top Figures

If all goes well, and we hope there will be no exceptions, 95 seniors will march up the aisles of the College Auditorium, Friday, May 29th prepared to answer the final roll-call by Dean Holden that will take them across the abyss into the field of practice—that is, all except the little matter of state board examinations. When the 95th student makes his bow, he will constitute the 1341st graduate to go out from the halls of P. C. O. From a low of 2 graduates in 1900 to a height of 95 in 1936—that's a story of range, ascendency and growth. The next largest class to leave the portals was that of last year (1935) when 92 ventured went forth. The smallest class to graduate in the last two decades was that of 1916 when 7 were on the platform. A mere 9 in 1919, with but 10 in 1922, tells a story, too, of lesser fortunes and leaner years.

Originally classes were graduated twice a year—in fact up to the year 1910. That accounts for the commencements outnumbering the actual years of existence of the College. At the outset, as is pretty generally known, the course was a matter of two years of nine months each. In the fall of 1905, a compulsory three-year program was instituted. The curriculum was increased to a four-year course in 1911.

According to records and statistics recently compiled and checked under direction of the Executive Committee of the Alumni Association, there are 1017 P. C. O. graduates active in the field of practice. Fifty-seven graduates are known to have passed on to the great beyond, while addresses are unknown in 172 cases. The 1017 graduates are located throughout 30 states of the Union and 4 foreign countries.

Do You Know That—

The Publicity Department of the College and Hospital mailed cards, letters, and circulars to 385,600 public school children, 83,000 parochial school children and 11,000 private school children, in conjunction with the appearance of Admiral Byrd in Philadelphia. Every suburban high school within a radius of 50 miles, every college and university, every normal school and academy received information, together with thousands of school teachers and professors of the educational project undertaken by the Osteopathic Hospital and its Clinics. College presidents, principals of schools, ministers, teachers and army and navy, etc., officials were present.

The Publicity Department received the co-operation of all the broadcasting stations, press and friends.

Geographical Location of Graduates of the Philadelphia College of Osteopathy

<table>
<thead>
<tr>
<th>Name of State</th>
<th>No.</th>
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<tbody>
<tr>
<td>Alabama</td>
<td>1</td>
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<tr>
<td>Arkansas</td>
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<td>Connecticut</td>
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<td>Delaware</td>
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Graph showing the number of students graduating from the Philadelphia College of Osteopathy for the years 1900-1935 inclusive.
ALUMNI NOTES

'00 W. B. Keene, M. D., A. B., D.O.—The April 1908 issue of the Philadelphia Journal of Osteopathy, Vol. X, No. 2, reports that “Dr. Keene read an able paper before the Philadelphia County Association, in which he urged the osteopaths of the East to support the P. C. of O. because its instruction in true osteopathic principles is unexcelled.” It is hoped he will give this same paper on Friday, May 29th, 1936 at the Annual Meeting of the Alumni Association. It will be a pleasure to greet a distinguished member of the first class of the College.

'01 (June) Frank B. Kann—A testimonial dinner to Frank B. Kann, together with Harry M. Vantine, celebrating 35 years of service to the osteopathic profession, was tendered by members of the profession in Harrisburg, Pa., on February 29th. Philadelphians paying their respects were O. J. Snyder, E. O. Holden, G. S. Rothmeyer, R. L. Fischer, together with T. R. Burburn of New York City.

'03 (June) E. M. Downing, York, Pa., says: “I recently came across a little manuscript that I had forgotten—my class history of the Class of June 1903. To read it over brought back some interesting memories of years ago at the old home—it arouses one’s pride in his own school to contrast that with the one at 48th and Spruce Streets.

'11 Dr. G. E. Crandall, President of Dr. Crandall’s Health School Sanitarium, York, Pa., on the Lincoln Highway replies to Dear Old Bal (Class President): Barreling anything unforeseen at the present time, you may depend upon my being there (Penn A. C. Friday, May 29th) and I surely hope that my old friends “Briney” and “Peter-the-Brearley” will be on hand.

'15 H. V. Hillman, New York City, will be the principal speaker at the May meeting of the Philadelphia County Osteopathic Society, to be held in the College building. Dr. Hillman is General Chairman of the 1936 National Convention Committee.

'16 Paul Revere Thomas is rehearsing for another “Paul Revere” to sound the call for the 20th Reunion of his Class at the Penn A. C. on Friday, May 29th.

'17 Gordon P. Losee was elected President of the New Jersey Osteopathic Society at their 35th Annual Convention at the Berkeley-Carteret Hotel, Asbury Park, on May 9th.

'24 Lois S. Goorley, was elected to office of Vice-President, while James C. Chastney, '24, and Wm. C. Bugbee, '24, were continued in office as Secretary and Treasurer, respectively.

'25 C. Haddon Soden will appear on the program of the Georgia Osteopathic Association at their Convention at Columbus, Ga., in June.

'26 Earl H. Gedney was the speaker at the April meeting of the District of Columbia Society at the Lafayette Hotel where he lectured and demonstrated technique on the subject: “Backache.”

'27 One of the most important and interesting features at the Waldorf Astoria Hotel in July will be the scientific exhibit under direction of Otterbein Dressler, '27, National Chairman of Scientific Exhibits.

'32 Harry E. Friberg, Bridgeton, Maine, writes down that the links will soon be in shape for the P. C. O. crusaders. Regular summer visits from the College to the Naples, Bridgeton and Poland Springs Courses include E. O. Holden, P. T. Lloyd, G. S. Rothmeyer, J. M. Watters, S. K. Caldwell and various other osteopathic guests.


TEN YEARS OF INSTITUTIONAL GROWTH

The following tabulation portrays the growth of the College and Hospital since 1925

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<th>ENDOWMENTS</th>
<th>PLANT FUNDS: LAND</th>
<th>LAND BUILDINGS AND CONTENTS</th>
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<th>INCOME HOSPITAL PATIENTS</th>
<th>STATE APPROPRIATION ANNUALLY</th>
<th>DONATIONS AND GIFTS</th>
<th>INSTRUCTIONAL SALARIES</th>
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THE GRADUATE SCHOOL

The Philadelphia College Responded to Urgent Calls from the Profession for Higher Training. One hundred Graduate Physicians Placed in General and Special Fields during the College Year 1935-36. Fifty Additional Graduates Already Registered for the 1936-37 Sessions.

With ten graduates assigned to internship and residencies in the Hospital, with fifteen fellows pursuing special opportunities in basic science, clinical and research fields, and with seventy-five physicians attending a two-year post-graduate course as approved by the New Jersey Board of Medical Examiners, in satisfaction of requirements contained in the new law regulating the practice of osteopathy in that state, the Philadelphia College is manifestly doing her part in affording opportunities to men and women in the field.

It goes without saying, too, that the institution has the staff and equipment needed for the adequate performance of the services it is rendering. The ideal of the College is, and that it is as it should be, to render as large a service as possible. This cannot be done without proper financial support, but, given such support, facilities and facilities can be developed. That is where the $1,000,000 drive for funds enters the picture.

It shows soundness of thought and a sternness of realization that physical assets must be bolstered in order to meet future demands upon the College and Hospital. That is, too, where the Annual Giving method of support comes in. It affords practitioners in the field an opportunity to contribute, and rightly so, to a plan that contemplates the satisfaction of their needs—post-graduate education—a boon to that ever enlarging number of men and women who would build surely the educational foundations of their lives. The problem can be and is being solved by the Philadelphia College and certain of the other Osteopathic Colleges.

But, what of next year? Already the ten internships and residencies that are possible of assignment have been awarded. Already twenty graduate students have been accorded the benefit of fellowships for one-year programs involving their full time in single subjects. Already fifty osteopathic physicians from the field of practice, largely from the state of New Jersey, have registered for the next two-year course for graduate students. With the seventy-five graduates from New Jersey remaining for their second year and with the eighty-odd new participants in the picture of the next academic year accounted for, the Philadelphia College stands to extend her numbers and scope to greater proportions. It is safe to estimate that there will be at least 150 graduates pursuing systematically designed work during the year 1936-37. It appears that P. C. O. is doing her part in graduate educational development. For that reason alone she deserves support from members of the profession at large.

Graduate education, to this time, has been the privilege of the few; it must become the opportunity of all,—to some in small measure, to others in unlimited scope. The Philadelphia College is determined to show the way. Thus she wants the faith and the support of graduates everywhere.

Graduate students receiving instruction in Ophthalmology.
OSCOE D. HILBORN, member of the Class of '33, who has just returned from Maine, temporarily, and now living at 253 South 51st Street, has just received his official Amateur Radio Station License from the Federal Communications Commission at Washington, D.C. Dr. Hilborn is the only Osteopathic physician listed in the International Radio Directory Callbook, his official license being W3GHE.

Let Dr. Hilborn tell you an interesting experience which happened recently while his brother-in-law was operating the transmitter—"The other night while fooling around the panel board for about three or four minutes a CQ came in (International Call). My brother lifted the receiver and answered it, never dreaming that he would be tuning in on Ecuador. After an inter-change of greetings, we learned that he was a physician and a graduate of the University of Pennsylvania. We were not sure of his name but we thought it was H. B. Parker. We asked him various questions and the type of cases he treated in that country . . . . It seems that any malignancy like carcinoma, . . . he takes them in a plane and flies them from Ecuador to Palmona for X-ray therapy. He leaves Quakel at eight o'clock by plane and flies to the Canal Zone in time for lunch. He has his lunch, patient is X-rayed and is back at Quakel at five o'clock . . . . His hobby is focal infections which mostly terminate in chronic pneumonia . . . . Asked if syphilis was prevalent. Answered No—contrary to what is thought . . . . Reported that patients were very faithful in their treatment and would come every day for ten years if he said so.

During the end of the conversation learned that he had a son, who operated the keyboard as his father. It seems the father was in bed, when the son picked up Hilborn's brother's conversations and awakened his father who operated the transmitter.

(Editor's Note: In order to check for Dr. Hilborn on the name and college of the physician he spoke to over the air thousands of miles away, in less than three minutes the University of Pennsylvania verified the following information. H. B. Parker was a graduate of the Class of 1899 from their Medical College; played football (Hilborn believed he understood the doctor to say, by dots and dashes, that he played football at Penn) for three years. The University mentioned that he had left for a foreign country. This office was therefore able to notify the Alumni of the University of Pennsylvania of one of their lost graduates.)

### FACTS AND STATISTICS RELATING TO GRADUATES OF THE PHILADELPHIA COLLEGE OF OSTEOPATHY

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DEAN Holden announces appointment of Dr. Carl Frey as chief resident physician replacing Dr. Karnig Tomajan who leaves for Massachusetts.

Dean Edgar O. Holden announces the appointment of Dr. M. Carl Frey as Chief Resident Physician of the Osteopathic Hospital to be effective July 1st. Dr. Frey, previous to his graduation in 1934, was one of the honor students. He attained a very high scholastic average, and proved to be most popular both as a leader and as an athlete in the extra-curricular activities of the college.

Dr. Frey, in addition to his work at Elizabethtown College, has just completed two years of internship. His appointment as Chief Resident has been popularly received by all members of the staff.

An Early Alumni Meeting
Philadelphia College of Osteopathy Building, Friday, November 18, 1904

Upon call from President Dr. W. B. Keene and acting Secretary, Ira S. Frame, of the Alumni Association of the P. C. I. O. the following members responded:

- Dr. W. B. Keene
- Dr. Jas. M. Magree
- Dr. Elizabeth B. Frame
- Dr. Edwin W. Tate
- Dr. Jose C. Howell
- Dr. Henry G. Wolf (Proxy)
- Dr. J. M. Carter (Proxy)
- Dr. Mary L. Heisley
- Dr. T. D. Lockwood (Proxy)

Dr. Wm. B. Keene, President, occupied the chair and stated that the meeting was an adjourned Annual Meeting, from June last. As the minute book of the Association and Dr. H. S. Caryl the Secretary was not present, the reading of the minutes was dispensed with. H. Alfred Leonard was appointed as Temporary Secretary. A recess was taken to allow members to pay their dues.

The President then announced that election of officers for the current year was in order. After various nominations and ballots the following officers were elected:

**President**—Dr. Ira S. Frame
**Vice-President**—Dr. Edwin W. Tate
**Secretary**—Dr. Henry G. Wolf
**Treasurer**—Dr. Thos. W. Ellis

**Executive Committee**—Drs. Wm. B. Keene, C. W. McCurdy, J. W. Galbreath.

President Frame then announced that the meeting was open for any remarks along Osteopathic lines, especially of Legislation.

Dr. Keene thought it would not be possible to obtain legislation favorable to Osteopathy until the school course was increased to 3 or 4 years, and the educational requirements for matriculation are raised. Dr. J. C. Snyder thought every Osteopath should make personal canvas of the legislator from his district, and Dr. McGee thought it should be done before the Legislature meets at Harrisburg. As it was getting late no other remarks were made. A bill for $7.20 from Dr. H. A. Leonard for favors purchased at the Annual Banquet was passed and paid.

The meeting then adjourned.

H. A. Leonard, Sec. Protem (Signed).

GRADUATING EXERCISES, PHILADELPHIA COLLEGE OF OSTEOPATHY, JUNE, 1905

The tenth commencement of the P. C. I. O. presented many features of unusual interest. The baccalaureate address was delivered by Rev. George H. Bickley, Ph.D., at the Methodist Episcopal Church, Broad and Arch Streets. His subject was "Christ, the Healer," and was delivered in a masterful way, giving timely advice concerning the physician and his moral ideals.

The address before the Neuron Society was made by the Rev. Henry F. Lutz, A.M., B.D., on "Love, Courtship and Marriage." The subject, while of special interest to the single element, seemed to be grasped and listened to just as eagerly by the married folk. Dr. Lutz was both humorous and instructive in his advice. The class day exercises were original and unprecedented in attendance and interest.

Hon. William W. Porter, Ex-Judge of the Pennsylvania Superior Court, gave a splendid and masterly address at the commencement, which was held at Witherspoon Hall. Dr. J. Ivan Dufur presented the "Year's Progress," an account of the work done by the Philadelphia College for the past year. Dr. C. W. McCurdy, Dean of the faculty, presented the degree of the College to the following graduates:

WITH THE ALUMNI

MAINE

UP in Maine where the nation’s Elite play in summer months and the natives are still looking for the impressing tales about Maine’s Back Woods to materialize, Osteopathy enjoys a practice freedom on a par that amounts to equal rights. P. C. O. is well represented in Maine as are other colleges and recent graduates are finding wonderful opportunities professionally, financially and otherwise.

The Digest has always occupied a special place with P. C. O. Alumni and I am sure it will continue to do so, especially in that Dr. Donald B. Thorburn is doing a good job—keeping Alumni “in touch” through the Alumni Assn. and the Digest.

Within a radius of 45 miles of Camden (Maine) there are approximately 25 D. O.’s. Most of that number are young men, recent graduates and P. C. O. is well represented in this group which is literally bottling up four or five counties. Up the coast in Belfast, a town of about 5,000 Ed. Morse is having phenomenal success. Been in practice six months, already a member of the Rotary Club, physician to a railroad, city physician, physician to the local athletic association and city basketball team and so on. He has opened a branch office in Liberty, a little village inland and has had wonderful success there as well; so much so that the town fixture, an M.D., who had been there for 40 years has moved out of town. The local medical opposition became alarmed and started circulating malicious stories which did bother Ed personally a bit in that they claimed he knew nothing about O.B.S. The tables turned that same week when Ed delivered three cases and booked five new ones for the immediate future. Let’s give Ed a hand.

Near Belfast is a little town, Brooks, where Art Jewell (‘31) is local health officer, family adviser and the real thing in Country Doctors. Art could sit down and talk for hours about his unique experiences as a country doctor. Trips to attend the sick or delivering mothers via auto-mobile, buckboard, sleigh, walking on from where transportation becomes impossible, snow shoes, etc. Art has an enviable O.B.S. record—number of cases (56 in about 2 years), types of complications, means of remuneration and a remarkably low mortality rate for mothers and babies considering conditions under which he has had to work. During the first week of April ’36 he delivered three in 24 hours, one of those three with his hat and overcoat on. The Humphry number tablet “s” or system has nothing on Art in that he is forever receiving letters with detailed descriptions of symptoms from patients who live miles from nowhere who want directions and medicine sent to them by mail or the local R.F.D. The Jewells have a treasure in one-year-old Dorothy Jane who in spite of her age wields quite a Simon Legree influence. Art is also a newly initiated Mason and a member of the Knights of Pythias; going strong in both organizations.

On the coast again, there is the town of Waldoboro, giving Frank Randolph a good living with more besides and a wealth of experience not found in classrooms. Waldoboro is quite a summer resort and Frank gets his share of that work. If you were to drop in on Frank sometime you might find him deep in an easy chair (that is, as deep as 185 lbs. can get in an easy chair) giving you a tangible impression of “The Thinker.” Under thought would be how in thunder those o’d school M.D.’s could pass out such diagnoses as they did and cause elderly patients to come to him now for treatment.

International Society of Osteopathic Ophthalmology and Otolaryngology, Philadelphia, Pa., July 13, 14, 15

TENTATIVE PROGRAM

Monday, July 13, 1936

8:00-12:00 A. M.

Registration of members. Registration of guests. Registration of clinics.

8:00-10:00 A. M.

Examination of clinics by Group 1:

Dr. T. J. Ruddy, Dr. L. S. Larimore, Dr. Paul J. Dodge, Dr. C. M. LaRue,

Dr. W. J. Siemens, Dr. C. Paul Snyder.

10:00-12:00 A. M.

Examination of clinics by Group 2:

Dr. C. C. Reid, Dr. G. M. Myers, Dr. F. J. Cohen, Dr. Jerome Watters, Dr. H. J. Marshall, Dr. A. C. Hardy.

12:00-2:00 P. M.

Lanccheon, Board Meeting.

2:00-4:00 P. M.

Courtesy program by Philadelphia College of Osteopathy.

Dr. Paul T. Lloyd, Dr. Otterbein Dressler, Dr. George S. Rothmeyer, Dr. Ralph L. Fischer, Mr. T. Havidland, Dr. J. Ernest Leuzinger.

6:30 P. M.

Sixth Birthday Party.

Tuesday, July 14, 1936

8:00-10:00 A. M.

Examination of clinics by Group 2. Surgery at Hospital by Group 1.

10:00-12:00 A. M.

Examination of clinics by Group 1. Surgery at Hospital by Group 2.

12:00-2:00 P. M.

Lanccheon, Board Meeting.

Application for Fellowships.

2:00-5:00 P. M.

Cadaveric Surgery.

Dr. T. J. Rudely—Transplant superior rectus to levator Palpebrae.

Dr. C. C. Reid—Resection of internal jugular vein.

Dr. C. Paul Snyder—Drainage of sinuses through middle meatus by minor surgical methods.

Dr. F. J. Cohen—Medical mastoid operation.

Dr. G. H. Meyers—Ligation of external carotid artery.

Dr. L. S. Larimore—Author’s modified frontal sinus operation.

Dr. Paul J. Dodge—Bronchoscopy.

6:30 P. M.

Dinner.

Examination of candidates for fellowships.

Wednesday, July 15, 1936

8:00-10:00 A. M.

Examination of clinics by Group 1. Surgery at Hospital by Group 2.

10:00-12:00 A. M.

Examination of clinics by Group 2. Surgery at Hospital by Group 1.

Cadaveric Work—to be assigned.

12:00-2:00 P. M.

Lunch, election of officers.

2:00-5:00 P. M.

Cataract Symposium (Animal Surgery).

Dr. T. J. Ruddy, Dr. G. M. Meyers, Dr. L. S. Larimore, Dr. A. C. Hardy.

Bronchoscopic Demonstration—to be assigned.

5:00 P. M.

Adjournment.
A Survey of Some of the Mechanisms and Processes Through Which Abnormal Spinal Mechanics Can Produce Local and Remote Effects

Frederick A. Long, D.O., M.Sc. (Ont.)
Professor of Principles of Osteopathy, Director of Osteopathic Research

Much interest is being shown at present in the relationship between faulty body mechanics and posture, and disease. Osteopathic research has established the fact that the structures of the spinal column occupy a position of major importance in this mechanical consideration. It would seem advantageous to discuss certain factors concerning the anatomical mechanisms and physiological processes through which abnormal mechanical states in the vertebral column probably produce their local and remote effects. Such discussion will include, but not be limited to, the osteopathic spinal lesion for the writer is of the opinion that the changes occurring in the osteopathic spinal lesion, in poor posture, and in faulty body mechanics in general as this involves spinal joints, can be approached upon the common ground of the nervous and vascular phenomena resulting from disturbances in spinal mechanics.

Osteopathic research studies carried out to determine the changes occurring in the spinal lesion in laboratory animals have thrown much light on many phases of faulty spinal mechanics. Animals have been "lesioned" (traumatically induced structural and mechanical alteration between vertebral segments) and the local and remote effects studied. It is upon the basis of these observations that explanations concerning the probable conditions in the human lesion rest. The essential pathological changes found to occur in the lesioned animal were those of the reaction of inflammation with its sequellae. The early changes consisted largely of alterations in water balance (local edema) and a disturbed chemistry (lowered pH). It has been assumed that certain remote effects found to occur in relation to such lesioned segments resulted from the local pathology. While this is probably true to some extent, especially if considered from the standpoint of later maintenance, still it is the belief of the writer that too little attention has been paid to the possibility that the local lesion pathology and the remote effects are both, especially in the early stages of involvement, results of a single prior factor having to do with spinal joint mechanics. Later reference to this position will be made.

In all analyses of osteopathic manipulative technic, whether made by those who believe in the universality of subluxation, those who consider structural vertebral disturbances secondary to variations in soft tissues, those who combine these ideas, or those who consider only joint mechanics, the one point upon which there has been agreement and upon which all corrective manipulative measures are based is that the "correction" of the spinal lesion depends primarily upon the restoration of normal articular motion, and that the more nearly normal spinal articular motion can be approached and maintained the better are the chances of preventing the further development of local pathology and remote effects. Such agreement has grown out of both clinical experience and experimental study. In lesioned animals, it was not until normal articular motion had been restored that pathological results disappeared. These osteopathic studies are highly significant for they lead to the joint and its periarticular structures in the search for the single initiating factor mentioned above.

It is assumed that the earlier changes resulting from altered spinal mechanics are induced by forces set in motion as a consequence of spinal joints attempting to carry out their normal physiological movements in the presence of some mechanical embarrassment. Such mechanical embarrassment may result from direct injury as in strain or sprain, it may result from various forms of faulty posture, it may result from certain diseases producing mechanical defects involving posture (poliomyelitis, obesity), it may result from the effects of developmental anomalies, especially those involving variations in facet facing; it may result from reflex causes interfering with the proper reciprocal action of spinal muscles which is so necessary for normal spinal joint action, or it may result from actual subluxation however induced. The fundamental factor obtaining in all these conditions is joint motion in other than normal planes. This would suggest that it is essentially the abnormal movement rather than the structural position at rest or the fact that the joint is "fixed" which accounts for many of the observed effects. In fact, according to the radiographic technic of Lloyd and the writer used to study spinal mechanics, in no clinical subject studied thus far has a lesioned articulation been found in which there is no motion. Consideration of the causes of mechanical abnormality would further suggest that it might occur within or without (strain or sprain with relaxed joint) the normal joint range, and indeed Litton questions the belief that lesions occur within normal ranges of motion.

Certain advantages accrue from the above approach. It considers that the local pathology and the remote effect of spinal abnormality might both be the result of a single articular factor (mechanical disturbance). Explanations based on this concept, therefore, will include the spinal lesion without excluding states in which remote effects are probably
induced without any or great local pathological reaction (as in faulty posture). It allows for a better explanation of the production of tissue changes local to the vertebral column in the so-called "secondary reflex lesion." It allows for an explanation of how remote conditions resulting from spinal mechanical abnormality might under certain circumstances be corrected without direct manipulation of the spine (through postural correction). It further suggests that all osteopathic spinal lesions have a traumatic basis, if this trauma is interpreted as mechanical insult resulting from abnormally functioning joint surfaces. In this sense the reflex lesion is fundamentally traumatic. And it opens the way for a better understanding of the physiological processes involved in spinal compensation and decompensation.

It is quite impossible at present to properly evaluate the various possibilities of action through which altered joint mechanics, local paravertebral pathology, and manipulation, especially of spinal areas, produce the many observed clinical effects. It is only possible to select several general considerations and to make superficial analysis of these on the basis of established anatomical and physiological knowledge in an attempt to survey the general field in which osteopathic research must operate to prove certain hypotheses upon which clinical successes must be explained. The present writing will include a consideration of the production of local and remote tissue changes resulting from disturbed spinal joint action, and a survey of the anatomy and physiology involved in some reflex effects.

LOCAL AND REMOTE TISSUE ALTERATIONS

The tissue changes which have been found in the laboratory animal to result from experimental lesioning of the spine parallel in many ways the reaction of inflammation. In the older pathological considerations, inflammation was considered always to be the result of a direct cellular injury, but the newer investigations into capillary physiology and water balance indicate that there are many early reactions to be considered which might not reach the stages of acute inflammation, but which should still be considered some part of the reaction of inflammation. The early changes in the spinal lesion have been found to consist chiefly of disturbed water balance (edema) and altered chemistry (acidosis). As these are part of the picture of the early reaction of inflammation it indicates that the reactions in the spinal tissues are essentially the same as in any tissue directly or indirectly injured. It becomes necessary to consider how these changes might occur as a result of direct tissue injury, and as well in a referred manner through alterations in vasomotor (capillary) control.

It would seem necessary to establish some connections between the total of factors making up the picture of abnormal joint mechanics and the localized edema and chemical change in paravertebral tissues if it is to be explained satisfactorily how re-establishment of normal arthroidal motion causes disappearance of pathological cycles. The processes involved would include one or both of two phenomena, either local cellular injury, or reflex effect through the nervous system. Both of these involve the capillary and certain fundamentals of capillary activity should be understood before proceeding.

Capillaries have the power to alter their calibre regardless of their contents; that is, independently of the arterioles from which they spring. Their calibre at tissue rest is less than during activity. These two facts would indicate that they exist in a state of constrictor tone. The regulation of this change in size is taken care of in three ways: (1) nervous regulation, (2) local (chemical) regulation and (3) hormone regulation.4 The nervous regulation is carried out through central nervous system reflexes or local axone (antidromic) reflexes. The local chemical regulation is probably accomplished through the production of a histamine-like substance by the local tissues which causes capillary dilation and increase in permeability. It is believed by Lewis (cited by De Graff, loc. cit.) that the secretion of small amounts of this substance helps to maintain normal blood supply to tissues. Carter5 cites Krogh's investigations to indicate that the hormone control involves at least adrenaline and pituitrin. The local variations in tonus exhibited by different capillaries would seem to contradict tonus maintenance by a blood hormone, but this is answered on the basis of local exhaustion of the hormone from the constricted vessels and the action of the histamine-like substance or acids which accumulate as a result of decreased blood supply. It would also seem probable that the nervous regulating mechanism might have something to do with determining local alterations.

In addition to being able to vary in calibre, capillaries can also vary in permeability, this permeability increasing as the capillaries dilate and decreasing as the vessels become constricted. This fact is of great importance, for it is possible that sufficient increase in permeability can exist to allow the colloidal plasma proteins of smallest size (albumin)6 to pass through the wall. Such an occurrence alters the balance between diffusion (hydrostatic) pressure within the vessel dependent on blood pressure which tends to force fluid through the capillary wall, and the osmotic tension of the plasma which tends to hold fluid within the vessel. The loss of protein colloid from the blood to the tissue increases the tissue osmotic tension, decreases that in the capillary and so creates a condition in which fluid is lost from the vessel to the tissues. Thus alterations in capillary permeability have much to do with the production of edema.

It is upon the conditions of capillary physiology that explanations of the early changes in the lesion or other forms of altered spinal joint mechanics must rest. It is not enough, however, to simply say that the tissue changes result from the spinal irritation, as in the case of a sprain or strain in other joints, for there are factors such as the subacute nature of the spinal change, its relatively long period of maintenance in many instances, and the fact that in the human the paravertebral tissue alterations result from initiating conditions which can be considered traumatic to sensory nerve endings, but not grossly traumatic to local tissues, which demand more critical analysis of the mechanisms and processes between cause and effect. There is substantial basis in anatomy and physiology for the effects from disturbed joint mechanics and in addition there are research studies which verify osteopathic concepts concerning the localized edema and disturbed chemistry which accompanies the experimental lesion.

Probably one of the greatest retarding influences to a better understanding of the subacute reactions involved in minor and localized alterations in water balance and chemical change has been the tendency to approach the reaction of inflammation only from its gross manifestation, with little attention to changes which occur long before heat, pain, redness and swelling occur. As early as 1923, Jelliffe and White7 made certain observations concerning edema (angioneurotic) which were in line with the studies then being made on capillaries by Krogh and by Lewis, and which have such a direct bearing on our present contentions that we quote from them: "Recent conceptions concerning edema are undergoing such radical modifications that it is practically impossible to interpret the findings here outlined along those lines that regard all edemas as cell phenomena solely, independent of the action of the vegetative nervous system acting on blood vessels. The studies of edema made by Fischer and others emphasize only the physiochemical side of the problem. They neglect the role of the vegetative nervous system in regulating tissue tension and cellular chemistry. The statement that the disorder (angioneurotic edema) is an angioneurosis by no means clears the situation, although it is certain that the sympathetics are media from cause to effect."

In presenting data concerning the skin capillaries, Carter (loc. cit.) describes the tache resulting from drawing a blunt instrument over the skin. In the instance of firm pressure the reaction is deep flushing with pale areas along the edges due to dilatation and
contraction of capillaries. Capillary constriction is demonstrated in the pale tache by the fact that microscopic examination shows the constricted capillaries can be connected with filled arterioles and venules. Concluding, he says, "Local edema may follow the tache and cause a wheel. These discoveries explain the association of local hyperemia with cyanosis (the blood is flowing so slowly in dilated capillaries that its oxygen is used up), the pathogenesis of shock and the initial stages of inflammation."

The above two considerations (edema and the early stages of inflammation) would indicate that it is with the same mechanism of capillary alteration that we must deal in analyzing local edema and early inflammatory reaction. It now becomes possible to approach the question of how disturbances in joint mechanics in the tissues and maintain a local disturbance in paravertebral tissues, and also how certain changes in water balance and chemistry might occur in remote tissues.

On the basis of what has already been presented there would appear to be two ways in which edema and early inflammatory reactions in paravertebral tissues might be produced by faulty joint mechanics. The first of these involves the local control of capillary calibre and, hence permeability, exercised by a histamine-like substance. The tissue trauma incident to a spinal articulation forced to function at mechanical disadvantage might be sufficient to maintain an increased amount of histamine-like bodies which would maintain capillary dilatation and increased permeability. Loss of plasma proteins from the capillary under such conditions would decrease intracapillary osmotic tension and increase the tissue spaces with resultant loss of fluid from the capillary to the tissues. This state would exist as long as the exciting cause (tissue trauma from faulty mechanics producing strain) existed. Conversely, reduction in the amount of the capillary dilating histamine-like substance could only occur if the causes for joint or periarticular strain were removed (restoration of normal arthro-dial motion). The tissues affected by such trauma are those of the paravertebral structures and include the muscles. Establishment of an edematous state would decrease O_2 supply, and as well increase CO_2 and lactic acid in the tissues by retention, and these latter substances act to further dilate capillaries and increase their permeability.

The fact that capillaries are known to respond to stimuli over the nervous system would suggest that a reflex mechanism might also be involved in the earlier tissue changes in abnormal spinal mechanics. That such a reflex mechanism (vegetative) does play a part in edema has already been mentioned and the relationship of such a mechanism to certain changes in tissue water balance in areas remote from the spine, but related segmentally to areas of mechanical disturbance will later be shown. The fact that capillary tonus is probably maintained largely by hormones in the blood stream does not preclude the possibility of their reacting for local needs through reflexes. Such being the case, it would become possible to explain dilatation on a reflex basis and indeed, while the capillaries are devoid of a well-developed muscle coat which could operate as the effector in reflex activity, still the presence of Rouget cells along the capillary wall provides a mechanism through which constriction can be brought about and variations in calibre produced, and it is probably these muscle cells that enables nervous control to be consummated. The exact manner in which such nervous influences are produced is not clear, and for this reason it is impossible to completely explain the processes through which impulses arising from an area of disturbed joint action and tissue strains produce their ultimate effect on the capillaries. To be considered as a possibility is the proposition that such afferent impulses, disturbed in their rates of discharge, might produce a central inhibitory state of neurones involved in maintaining tonus through the Rouget cells. A fact that would seem to contradict this explanation is that the capillary dilatation which results when the nerves to a region are cut lasts only a few days. It is not at all certain, however, that the effects of cutting the nerves are the same as alterations in physiological activity exercised over intact nerves.

Reactions such as those just presented, which appear in the tissues near the vertebral articulations, are not the only ones which occur as a result of faulty mechanics in the spinal column. There are also changes produced in tissues and organs remote from the spinal areas, but related to them through innervation. The principles of applied osteopathic manipulation rest largely upon these changes and the alterations which can be brought about in them through mechanical measures. Here, as in the case of the paravertebral tissues, the earlier and less well established of these reactions do not fall within well-defined categories if classification is attempted on the basis of named diseases. This is one reason why the existence of such changes has been questioned. But it is in the recognition of and application of therapy to these early tissue changes, which probably involve circulatory, chemical and water balance changes, that offers the greatest field in preventive medicine, for it is in these early stages that the beginning of disease rests. And it is largely because the osteopathic manipulative treatment offers a logical approach to these early changes as well as to later ones that it is truly an advancement in preventive endeavor. Burns et al. (loc. cit.) have demonstrated that in animals experimentally lesioned, organs such as the heart, kidney, and uterus showed diminished alkalinity, edema, hemorrhages per diapedesis, and other evidences of capillary alteration when the spinal level of lesioning corresponded, to the vasomotor control of the organ studied. These studies lend support to the assumption that some degree of nervous control of capillary activity exists. The role that such changes could play in the development of subsequent pathologies in these organs might be imagined.

Mayo and Adson lend substantiation to the idea that there are probably many changes involving the viscera and organs which do not produce frank symptomatology but which, through the medium of vascular alteration occasioned by factors operating outside the affected organ, might lead to serious embarrassment or even failure of the organ's function. These writers in reporting on the use of surgery of the sympathetic system in certain vascular diseases (Raynaud's disease, thrombo-angitis obliterans, and sclerodema) point out that there are probably many individuals evidencing varying degrees of vasospastic phenomena not sufficiently well established to warrant diagnosis as Raynaud's, but still definite enough to manifest symptomatology. They further state as their belief that in at least one of their deaths which occurred in Raynaud's under surgery, cardiac failure resulted from myocardial effects of the same vasospastic phenomenon in the heart which received the diagnosis of Raynaud's when affecting peripheral vessels.

The question is frequently raised, concerning the effects of the spinal changes under discussion, whether the early neuro-circulatory phenomena constituting the earliest states of the reaction of a tissue to harmful influences can indeed be considered any part of pathology. Mayo and Adson's observations would indicate that such underlying neurocirculatory factors can be definite and vital ones in maintenance of adequate organ function. McKinney, in discussing vasomotor disturbances including acrocyanosis, erythromelalgia, and Raynaud's disease has this to say concerning Raynaud's, "This disease develops under circumstances identical with those already described under acrocyanosis and erythromelalgia. The post-mortem findings are no more revealing than those already detailed under the preceding syndromes (changes in intermediolateral cord cells). The vasomotor disturbance results in asphyxia with resultant necrosis and sloughing of tissue. Behind this vasomotor disturbance is a disturbance of the sympathetic nervous system, as yet little understood." The same author believes that the term Raynaud's disease has been used as a dumping ground for a host of vasomotor disturbances in the extremities which have not been clearly understood or classified. In
reviewing the statements of Mayo and Adson, and of McKinney one might well ask the question whether there is probably not an early neurocirculatory disturbance at the bottom of much later developing pathology, and also whether all the factors capable of reflexly disturbing neurocirculatory balance have received sufficient consideration. The advent of osteopathy certainly opened one avenue of investigation along lines that had been previously neglected.

The importance of the role played by the neurocirculatory mechanism becomes at once apparent, and it is probably largely through the medium of this integrating unit that alterations in spinal mechanics, including the osteopathic lesion, can so alter the state of remote tissues that disease may become established.

Two of the most constant findings in tissues remote from the experimentally produced lesion in laboratory animals, but related to it through the nervous system, have been congestion, with dilatation of capillaries, arterioles and venules, and alteration in local chemistry.12 This alteration in tissue fluid balance would suggest the operation of some factor or factors capable of producing variation in capillary permeability through increased calibre. In attempting to establish the process through which this capillary alteration might be brought about, the effect of direct cellular injury with the production of a histamine-like substance would have to be eliminated from consideration, for the spinal tissues involved could not produce direct cellular injury in distant organs. This leaves the possibility of effects through hormone alteration (such as pituitrin or adrenalin), or through nervous reflexes. Hormone regulation undoubtedly plays some part in capillary control, but the localization of the effects of spinal abnormality would seem to necessitate an additional factor which probably operates over nerve mechanisms. The two processes having to do with capillary control and known to operate over the nervous system are a local (axone) reflex, and reflexes through the central nervous system. Inasmuch as the antidromic axone reflexes involved in localized capillary alterations operate in a restricted field close to the origin of the initiating stimulus, this control will not explain results in deeply placed organs from impulses originating in and near spinal articulations. This leaves the spinal reflex as the mechanism over which alterations in joint structure and mechanism must operate to produce variations in capillary calibre in remote tissues.

An anatomical basis must be established through which alterations in reflex activity induced by spinal abnormality could operate. The first neurone involved in the reflex has its cell in the dorsal root ganglion, a peripheral process to the spinal joint surfaces and peri-articular tissues which acts as receptor, and a central process entering the cord over the dorsal (afferent) root of the spinal nerve. Central collaterals of this afferent fiber transmit the impulse to the intermediolateral cell groups of the thoracic and upper lumbar portions of the spinal gray either directly, or through one or more interposed association neurones. The peripheral fibers of the cells in the intermediolateral columns leave the cord over the ventral root to enter the sympathetic system over white rami communicantes to the lateral chain ganglia. Vasomotor cells for the arterial, arteriolar, and capillary vessels are contained in either lateral or collateral sympathetic ganglia. The connectors (preganglionic vasomotor) fibers from the cord end in relation to these vasomotor cells which constitute the efferent neurones of the reflex arc.

Much more must be known concerning capillary circulation and control before satisfactory explanations of the physiological processes involved in capillary alteration resulting from disturbed spinal joint mechanics can be given. Capillaries, like arteries and arterioles, seem to be maintained in a state of constant tonus which can be varied to meet changing needs of tissues. It is known that central reflexes can mediate such responses. In the case of arterial and arteriolar vasomotors, it is assumed that there exists a central vasomotor-striking center from which impulses maintaining tonus emanate and that variations in calibre can result from factors acting in a pressor or depressor fashion on this central (medullary) center. Something paralleling the same control probably also exists for the capillaries. Stimulation of the sympathetic nerve supply has been shown to produce capillary constriction.12 McKinney (loc. cit.) cites Timme’s work to show that one important pathological change observed in erythromelalgia was change in the cells of the intermediolateral tract of the cord gray, a finding which is highly significant in a condition involving arteriolar and capillary circulation. The effect of stimuli arising in an area of disturbed mechanics in the spine might be answered on the basis that because of a disturbance in their rate of discharge a central inhibitory state is induced at the intermediolateral group vasomotor connector neurones which prevents the normal outflow of vasomotor (capillary) impulses, with capillary dilatation resulting from lack of tonus. It is conceivable that such capillary alteration would exist as long as the mechanical initiating factor were present or until various compensations could become established either in the spinal abnormality, or in the remote tissue affected. One argument which might well be proposed against similar nervous control in arteries and capillaries is the fact that arterioles and capillaries are known to react differently at least to chemical substances. Histamine will cause constriction of arterioles, but dilatation of capillaries. Very small doses of epinephrine operate in the same way. It has not been established that variations of a like nature exist as a result of nervous influences, but the fact that the reactions of arterioles and capillaries to chemicals are different would caution against making generalizations about their nerve control.

The most that may be definitely stated on the basis of known physiology and osteopathic experimentation is that disturbed water balance (edema) with accompanying chemical alteration results in tissues far removed from the spine but connected to it through the nervous system, when conditions affecting normal or abnormal motion in the vertebral column become established, and that these remote effects will last as long as the spinal factor remains. The physiology of the reflexes involved has not been satisfactorily explained.

The position taken earlier in this paper indicating it as the writer’s belief that local spinal changes and remote organ changes result reflexly at the same time through capillary alterations induced by spinal mechanical abnormality will now be considered and certain observations offered in substantiation. It must be understood at the outset, however, that it is the earliest depatures from normal which are being considered and not the maintenance of remote effects which might result when the local spinal reactions are well established.

An analysis of the time elements in the experimental lesion shows the following facts concerning local changes and remote changes. The quoted statements by Burns9 to follow relate to the changes which occur in each of the tissues involved in what we have been pleased to call the local changes. “The intervertebral discs of the affected areas show marked changes, most marked in the earlier stages in the acute lesion. The disc which is examined within the first fifty hours or so after an acute accidental or experimental lesion shows swelling of the nucleus pulposus and of the substantia fibrosa. The alkalinity of the tissue juices of the entire disc of the lesioned area is subnormal.”

“The ligaments of the lesioned area show similar changes. There is first some swelling of the ligaments affected by the lesion, and the lymph shows diminished alkalinity. These changes are most marked during the first day, or few days, after an acute lesion.”

“The articular surfaces show also some swelling, most pronounced shortly after an acute lesion, but present during the entire time during which the lesion persists. The synovial membrane thickens slowly during the earlier weeks of the lesion. Hemorrhages per diapedesis appear within the first day, and occur at irregular intervals during the first few months.”
"The smaller spinal muscles show abundant effects of the lesion... Within a few minutes after such a lesion there is some swelling of the fibers and some diminished alcalinity of the tissue fluids. During the first week or few weeks (the longer time for the larger animals) the edema of the muscle cells and connective tissue cells increases..."

The above observations establish the time element in local reaction of tissue measured in terms of edema. The results of experiments reported by Burns, et al. (loc. cit.) will now be presented to indicate the time element involved between the production of the experimental lesion of the same type used in the previously reported work, and the earliest changes found to occur in the kidney. Changes occurred in the kidneys of guinea pigs lesioned at the twelfth and thirteenth vertebrae as early as one hour after lesioning. The changes noted at this time consisted mainly of crowding of erythrocytes in the vessels. Ten hours after lesioning the kidney showed evidence of vascular infiltration of leucocytes per diapiesis. Twenty-four hours after lesioning the kidney showed diapedesis of both red and white cells and cloudy swelling of glomerular epithelium.

A comparison of the time elements above stated would indicate that the earliest recognizable changes following the experimental lesion in animals occurred as soon in the remote tissue as in the local. This would seem to preclude the assumption that local changes in the paravertebral tissues have to be well established in order to set in motion the forces which can disturb remote tissues. It would rather indicate strongly the probability that through some mechanism, probably involving central reflexes, the joint strain and mechanical disturbance induce a reaction in the local tissues and remote tissues at approximately the same time.

I would again wish to emphasize that this concept does not exclude the local changes as important maintaining factors in preventing return to normal condition in the remote tissues.

Disturbances in Vegetative Reflexes

The changes just described include those of the local and remote tissues affected by abnormalities in spinal structure and mechanics. There are to be considered as well certain alterations in the physiological activity in remote tissues which are occasioned by a combined effect of reflexes from involved spinal tissues, and the cellular and chemical alterations already alluded to. Such physiological alterations involve the functions controlled chiefly through the vegetative nervous system and would include the various local manifestations of sympathicotonia and vagotonia.

Eppinger and Hees devised the terms vagotonia and sympathicotonia to indicate tendencies to overaction of the parasympathetic and sympathetic systems respectively. It must be remembered that these are general trends and not definitely divided and fixed types, for it is possible for an individual to exhibit sympathicotonic manifestations in certain organs and tissues, and vagotonic (parasympathicotonic) manifestations in others. This indicates that localized as well as generalized vagotonia and sympathicotonia can exist. Among other factors which might account for localized variations in vegetative balance, those operating over the nervous system assume great importance and it is through the latter that abnormalities in spinal tissues involving structural and mechanical alterations are translated into forces which can upset physiological balance in remote areas.

An analysis of the relationship between the spinal changes which are being considered in this paper, and disturbed vegetative system balance demands consideration of the manner in which the spinal changes can produce augmented sympathetic action (sympathetic stimulation or parasympathetic inhibition), augmented parasympathetic action (parasympathetic stimulation or sympathetic inhibition), or the reverse of these. It becomes apparent that variations in the activity of the divisions of the vegetative nervous system may be either actual or relative. This is an important consideration for it is through the effects upon the sympathetic division that spinal alterations make their principal impression inasmuch as the sympathetics are closely associated with spinal reflexes. This close association is significant in osteopathic principles. The parasympathetics have control over those functions which maintain the organism (nutrition, secretion, etc.) while to the sympathetics has been given the important task of protecting the organism from harmful forces and of being the medium through which internal adjustments can be made in response to external variations. It would be expected, then, that the sympathetic division of the vegetative nervous system would be largely involved in reactions to abnormal spinal states and also that it would be the medium through which the application of mechanical forces to the body surface would be translated into reparative energy.

Clinical experience has demonstrated that spinal alterations can frequently produce opposite effects. In some individuals, an area of spinal strain or sprain with resulting reaction might produce changes through augmentation of sympathetic action, while in others apparently the same spinal condition might produce changes which could be initiated only by sympathetic inhibition. An example is the chronic disturbance in the nasal mucous membrane which might result from upper thoracic lesions in the spine, and which is accompanied by repeated head colds. The head cold is an expression of a localized parasympathetic reaction on the part of the nasal mucous membrane, and in the instance in which this is due to reflex alterations from the upper thoracic levels it could be explained only on the basis of sympathetic inhibition allowing relative parasympathetic overactivity, for there seems to be no direct manner in which impulses arising in the upper thoracic somatic zones could stimulate the parasympathetic preganglionic connector neurons in the superior nucleus salvatorius which send fibers to the parasympathetic cells in the sphenopalatine ganglion.

A consideration of certain mechanisms and processes through which these reflex expressions can be brought about as a result of spinal abnormality will be presented. It is assumed that the control exercised by the two divisions of the vegetative nervous system in organs and tissues receiving such dual vegetative innervation is understood, for the limits of the present writing forbid consideration of such physiological activity.

As a proper basis upon which to begin, it will be assumed that the alterations in the spinal tissues (strain, sprain, mechanical abnormality, and local tissue reaction) disturb vegetative balance either by causing stimulation or overactivity of the sympathetics or by producing inhibition or underacting in it. The terms stimulation and inhibition will be used here only as they apply to the physiology of the nervous system; and their use must not be considered synonymous with active tissue manipulation in the case of stimulation and deep steady pressure or as a result of inhibition. Such clinical use of these terms is unsatisfactory and confusing.

The manner in which spinal alterations might produce effects through sympathetic stimulation can be more easily understood if certain more familiar reflex patterns are first presented.

The connection between sympathetic ganglionic cells lying in lateral or collateral ganglia, and the central nervous system is carried out through connector fibers which are processes from cells lying in the intermediolateral cell groups of the gray column of the cord in the thoracic and upper lumbar segments. These cell groups are called, collectively, visceral efferent nuclei because they transfer impulses to the vegetative or visceral levels from the central nervous system. These intermediolateral cells in the cord can be affected by impulses which descend from higher centers (respiratory, vasoconstrictor, etc.), and as well by impulses entering the cord over dorsal root fibers whose peripheral processes collect impulses from somatic or visceral zones of activity. The impulses emanating from the visceral efferent cord
nuclei are concerned chiefly with vasomotion, visceromotion, or secretion. Thus the impulses which affect these cells and which enter over dorsal root fibers are concerned with initiating responses for local tissue needs.

The impulses over visceral afferent fibers will be relatively restricted in their associations to cells in the intermediolateral groups which send connective fibers to sympathetic cells controlling vasomotion, visceromotion, or secretion in the visceral zones from which the integrating afferent impulses arise. In like manner will the afferent impulses from somatic zones be limited to intermediolateral cells concerned with vegetative activities in the somatic tissues sending the afferent impulses (vasomotor, pilomotor muscles, sweat glands). It would appear, then, that under the circumstances of normal physiological activity the two zones of activity—visceral and somatic—interfere with each other's action to no greater degree than that necessary to evoke necessary interzone responses (shifts in blood volume from splanchic to somatic circulation, etc.). The mechanism which probably has most to do with maintaining this relative independence of action is the synapse. Through the varying degrees of resistance (graded synaptic resistance) which the synapse establishes in reflex conduction it determines the pathways over which certain impulses travel and this resistance can be so great that some impulses are prevented completely from passing. In addition to offering resistance to the passage of impulses, the synapse also imposes polarity in reflex conduction by acting as a valve to prevent the backward passage of impulses. Unlike the single nerve fiber, the synapse is an area which is extremely sensitive to chemical changes in its environment and which can be readily fatigued.

Under abnormal circumstances, there are examples which show a transfer of impulses from one zone to another. Acute inflammation in abdominal viscera will sometimes produce a recognizable muscle spasm in somatic muscles. Inasmuch as the afferent side of this phenomenon (visceromotor reflexes) originates in a viscus and the efferent response is somatic, and inasmuch as this spasm is produced only in the presence of visceral abnormality, there must be a factor in disease which alters the usual distribution of impulses in the central nervous system and favors a breakdown in the synaptic barrier ordinarily maintained against visceral impulses. This factor is the degree of summation of stimuli which occurs as a result of the inflammatory reaction. There is no change in the character of the impulse nor the strength of each impulse, but because of the inflammatory reaction the rate of discharge of the impulses is increased and if this summation is sufficient it will break down the resistance of the somatic motor cell (anterior horn) and a discharge of impulses occur which results in contraction of the somatic muscle. This type of response is made use of in diagnosis.

It is on the basis of the same nervous mechanism and the same physiological activity that the effect of disordered spinal structure and mechanics can be explained. Ordinarily, the impulses from somatic (spinal) zones are prevented from abnormally interfering with the functions of the vegetative system by reason of the same synaptic barriers that operate in the opposite direction. The mechanical disturbances in spinal joints including abnormal facet facing in motion, tissue strain, and the reaction of inflammation in paravertebral tissues, constitute a pathological stimulus adequate to produce reflex summation in the same way the visceral inflammation did in the previous example. These summated impulses would then be able to break down the barrier ordinarily erected by the vegetative (intermediolateral) connector neurone and overflow from the somatic level to the vegetative. Such increased activity would result in stimulation of the nervous division subserved by the intermediolateral cell connector fiber—the sympathetic side of the vegetative nervous system. An augmentation of sympathetic activity produced in this manner would exist, other factors being equal, as long as the area initiating summed stimuli (spinal tissues) operated in an abnormal manner. The remote area affected by a given spinal involvement would be governed by the distribution of impulses and would therefore correspond in a segmental way with the particular spinal area involved from which afferent impulses would enter the cord.

The explanation of the process just described rests upon the production of a state of excitation (central excitatory state, c. e. s., Sherrington) and as a result of this central excitation through summation, sympathetic stimulation would be produced through connective fibers. There are experimental studies to show that spinal changes often produce inhibition of the sympathetics 14, 18 and the explanation of how the spinal alteration can produce this sympathetic inhibition involves the reverse of the preceding—central inhibition (central inhibitory state, c. i. s.).

Afferent impulses which are to have an inhibitory effect set up a central inhibitory state (c. i. s.) the exact nature of which is not known. The seat of this c. i. s. is in the region of the central center and produces its effects not by discharging other impulses through motor inhibitory neurones, but by neutralizing, in some manner, the effect of the c. e. s. so that no discharge through the motor neurone is possible. Applied specifically to the problem of sympathetic control, afferent impulses arising in a spinal area of abnormality might be discharging at such rates that a central inhibitory state would be established. If the c. i. s. or central neutralization involved the impulses which should normally flow out to the sympathetics from intermediolateral cells in the cord, the result would be a degree of inhibition in one sympathetic neurone thus deprived of their central stimulation. Satisfactory explanation of how the original stimuli in the disordered spinal tissues alter the rate of discharge and produce central inhibition must await more exact knowledge concerning the nature of central excitation and inhibition.

In addition to the production of a central inhibitory state by impulses originating in disturbed spinal tissues, depressed action of sympathetics can be explained by other alterations involving nerve reflex mechanisms.

A nerve fiber is not easily fatigued, being able to conduct ten times as many impulses as it is normally called upon to conduct. In contrast to the fiber, the nerve cell body and the synapse are much more susceptible to nutritional changes, oxygen lack, and fatigue. It has been found that the nerve fiber in the frog will conduct impulses for several hours when deprived of oxygen, while reflex activity will disappear within thirty minutes under the same conditions. This indicates clearly that the points of greatest susceptibility to nutritional and chemical variation are either the nerve cell, which is the nutritional center for the neurone, or the synapse. There is a great difference among the various cells of the nervous system in their capacity to withstand deprivation of oxygen and these differences are of importance in evaluating the levels in the reflex pathway most likely to be affected by alterations in the spinal structure. The figures in the following table, modified from Macleod, 19 represent the time beyond which complete anemia will produce failure of cellular recovery.

<table>
<thead>
<tr>
<th>Structure</th>
<th>Time Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerebrum</td>
<td>8 minutes</td>
</tr>
<tr>
<td>Medullary Centers</td>
<td>20-30 minutes</td>
</tr>
<tr>
<td>Spinal Cord</td>
<td>45-60 minutes</td>
</tr>
<tr>
<td>Sympathetic Ganglia</td>
<td>3-3½ hours</td>
</tr>
<tr>
<td>Myenteric Plexus</td>
<td>7-8 hours</td>
</tr>
</tbody>
</table>

It will be seen from this table that so far as reflexes involving the spinal cord and vegetative neurones in ganglia are concerned, the part most likely to show effects from anemia is the spinal center. The cells in the vegetative system are better able to withstand nutritional deprivation. This knowledge offers a basis for further explaining depressed action of the sympathetic system as a result of spinal conditions. Burns (loc. cit.) has carried out experiments to determine the pathological changes which accompany traumatic lesioning of the spine in laboratory animals. Among
other changes there were those found in the cord segments nearest the point of lesion and these are described as follows: "Nerve cells in the spinal segments nearest the lesioned vertebrae show the changes already described by various authors for the fatigued or mildly poisoned nerve cell." Inasmuch as it has been established that the synapse as well as the cell body is sensitive to fatigue and chemical changes, it might be logically assumed that in an area giving visible evidence of cellular change, there would also be some alteration in synaptic resistance. The manner in which the spinal abnormality can induce the changes within the cord has not been made clear, but it probably involves in part at least, chemical and nutritional alterations occasioned by capillary changes producing disturbance in chemical balance and edema which might well alter cellular and synaptic nutrition.

The effects of these changes on impulses destined for the sympathetic division of the vegetative nervous system could be carried out in several ways. The nerve cell body is the nutritional center for the entire neurone and is necessary for the continued conductivity of its nerve fibers. The nerve fiber responds in an all or none fashion, that is, if it responds at all to a stimulus it will be to its maximum capacity to do so. This capacity, however, depends upon the condition of the tissue (fiber) over which the impulse passes and therefore upon its nutritional state. If, in the case of cord cells affected by the traumatic lesion experimentally produced or by the results of bad spinal mechanics in the human from whatever cause, nerve cell nutrition is reduced or altered, the fiber from that cell will transmit impulses of less strength (reduction in maximum capacity) than it would under conditions of normal nutrition. This would mean that the effects of spinal changes on the intermedullary cells in the cord giving origin to sympathetic connective fibers would establish a condition in which these fibers would be operating at a depressed maximum level and the functions subserved by these fibers would therefore be decreased. In the case of the visceral efferent cord connector the affected cells would be those in lateral, collateral, or terminal sympathetic ganglia.

In addition to the above stated condition of depressed fiber conduction capacity, there is also to be considered the effects produced by variations in synaptic resistance. In the presence of oxygen deprivation from altered vascularity in the cord centers and factors producing fatigue, the synaptic levels of central connections will be increased. Such an increase in resistance of the connector neurone synapse would mean that the discharge of impulses that should normally occur over this synapse into the vegetative system (sympathetic division) would be reduced through failure of certain impulses to cross the synapse.

The combination of decreased fiber conduction capacity and decrease in the stimuli being received by the visceral efferent connector neurone because of increased synaptic resistance will result in depression of sympathetic activity.

Something should be said, finally, about the place of actual pressure upon nerve fibers either by tissues under tension or structurally altered, or by edema. The idea of direct bony pressure upon nerve fibers has long ceased to receive serious consideration in explaining the effects of the ordinary spinal lesion in which subluxation is supposed to play a part. Direct pressure effects upon nerve fibers by other tissues, or by edema must be explained upon other grounds than direct interference with nerve impulses. Amussen 19 has analyzed this problem well and concludes that the pressure idea is essentially untenable and he says, "Also the conception of a lesion causing pressure on the nerve or blood vessels seemed to me to be erroneous. Surely if there were such pressure, the clinical symptoms would not be such as we usually find in connection with a typical osteopathic lesion."

In evaluating the effects of other pressure factors which might exist in the area of spinal disturbance, such as local edema and tissue stresses, it becomes necessary to state certain fundamentals of the conduction of impulses over nerve fibers. When a section of nerve fiber is subjected to forces that depress its conductivity (narcosis or pressure) it has been found that when the impulse has passed the depressed section of the fiber it regains its former strength. This would be expected, for if a stimulus adequate to evoke a response in the distal normal portion of fiber gets through the depressed area at all, the response in the normal portion of fiber will still be of maximum strength, for the strength of the individual impulse depends not upon the strength of the stimulus, but upon the state of the fiber transmitting it. Accordingly, the only circumstances under which depressed activity could be brought about as a result of pressure factors operating on one section of nerve fiber passing through an involved spinal area would be those in which the pressure were sufficient to completely prevent the passage of impulses so that no adequate stimulus could reach the distal unaffected portion of the fiber. That pressure to this extent actually exists in the spinal lesion or other spinal alterations of a like nature has yet to be proved, and in view of the observations made by Amussen it seems unlikely that it does. It is probably not, then, upon the fiber that the pressure present in the spinal area produces its maximum effect, but upon the cell body and synapse. Pressure sufficient to reduce the nutrition and alter the chemical environ-

ment of the nerve cell body could thereby affect the conductivity of the entire neurone by decreasing its level of maximum response.

No attempt has been made in this paper to include all the possible factors through which altered spinal mechanisms can produce distant effects, but simply to briefly survey several which have to do chiefly with vascular alterations and disturbances in the physiology of the nervous system. Those considerations which have been presented, however, largely cover the mechanisms and processes through which many other problems must be analyzed.

REFERENCES

Osteopathic Considerations in Peptic Ulcer*  
RALPH L. FISCHER, D.O., M.Sc. (Ost.)  
Professor of Practice of Osteopathy and Clinical Osteopathy

IT HAS been my aim in the preparation of this paper to establish a sound basis for the management of peptic ulcer from an osteopathic viewpoint.

For purposes of definition, peptic ulcer in this paper includes the consideration of the round gastric type, and also those occurring in the first part of the duodenum and the much rarer peptic ulcers of the esophagus. While most of the discussion will be devoted to ulcers of the prepyloric and postpyloric areas, it must be borne in mind that the treatment of all, including those occurring in the lower portion of the esophagus, is identical.

Malignant ulcer of the stomach will not be considered. Medical literature on the subject of ulcer has tended toward placing emphasis upon the neurogenic factors which operate in causing altered motility and disturbed secretion in the stomach, and upon the circulatory factors which make possible the development of peptic ulcers. The conservative treatment is undoubtedly chiefly based upon these two conceptions of its origin.

**Pertinent Statistics**

In a preliminary observation of the present-day significance of this disease, one can elaborate at length upon available statistical data. The report upon "Specific Death Rate of New York City," contains a remarkable exposition of the reason for current medical interest in peptic ulcer. According to this survey, the ratio of mortality from 1901 to 1903 was 11 males to 10 females, while in a corresponding period, from 1929 to 1931, it was 51 males to 10 females. Obviously, there must have been something of significance taking place in males during the latter period that was not operative in former years. Furthermore, while 73 males died from gastric ulcer from 1901 to 1903, 403 died from the same cause in the period from 1929 to 1931, although the number of female deaths was essentially the same (66 in 1901-1903 and 79 in the later two-year period). Obviously, the cause or causes of the alarmingly increased death rate among males did not, in effect, correspondingly alter that of females.

Since living circumstances such as medical care, food, water, and air are essentially the same for males and females during a given space of time, these may be eliminated forthwith as causes of the remarkable increase in the occurrence in males. Climatic influences, too, are the same for both sexes. Furthermore, if focal infection were an important factor in connection with the more widespread distribution of occurrence, one would expect a decrease during the years 1929-31, as compared with 1901-03. Certainly more attention has been given to focal infection during recent years than at the turn of the century. And by no stretch of the imagination could an increase in the occurrence of infective foci in the male be presumed without a corresponding effect in the female.

**Predisposition in Peptic Ulcer**

Two considerations of predisposition will be assumed in analyzing these statistics. First, that peptic ulcer is a local manifestation of a constitutional disease and second, related to the first, that the neurogenic factor is paramount. It is these that this paper chiefly considers. World history will identify the stated period between 1929 and 1931 as one of great economic distress, starvation, and sadness.

Who can deny that the male shielded the female from squalid details during this time? Examples might be multiplied if time permitted. And, too, the necessity for sustenance in many instances compelled the masculine population to undergo greater physical strain and longer hours. Many who had pursued sedentary occupations were forced to perform labors which placed a severe burden upon the anatomical structures of their bodies.

It is pertinent therefore to associate these general and unusual circumstances with the increased death rate and, assumedly, the increased occurrence of peptic ulcer in males. It is little wonder that the attention of the thinking physician is centered upon this association of events with an increasingly important lethal disease.

Several observers have referred to "ulcer diathesis" as being causative of peptic ulcer, on an anthropometric basis or on account of a disarray of structure and function in peripheral blood vessels or because of a short stomach with active peristalsis. Obviously, in their opinion, a constitutional background exists. Arthur F. Chae, of Post Graduate Hospital, New York City, defines peptic ulcer as a systemic disease due to maladjustment to one's environment. This same observer also believes that the role of infection in ulcer is secondary. The failure of surgery to permanently cure more than one-half of the cases operated upon would also lead us to believe that the local pathology in the stomach and duodenum is only part of the picture of the systemic origin of peptic ulcer. While gastric surgery is necessary in some cases, peptic ulcer must be considered as being brought about primarily by a general disease.

**Etiology—Circulatory Factor**

The best outline of etiology I have seen is that of Casilli and Gerendasy, which includes seven factors. Number one is the circulatory factor, represented by a localized necrosis plus the peptic action of the acid gastric chyme, and eventually resulting in ulceration. This is according to Virchow. The circulatory factor in etiology may also be the result of hemorrhagic infarcts terminating in necrosis and ulceration. Or poor vascularization may cause a localized ischemia and ulceration. In any event, except possibly in the malignant ulcer, the entire pathological physiology of this circulatory factor is found in the vasomotor network. A more complete analysis of this, an important osteopathic consideration, is made later.

**Neurogenic Factor**

Etiological factor number two is the neurogenic, and the one upon which, I believe, all others are fundamentally based. It is interesting in this connection to read what may be construed as osteopathic etiology from the pen of the German medical physician, von Bergman, wherein he states that a sympathetic and parasympathetic imbalance leads to a localized spasmodilia of the gastric musculature resulting in ischemia, necrosis and ulceration. Eppinger and Hess, other foreign investigators, more than 20 years ago pointed out that the ulcer patient is either a vagotonic or a vagosympatheticoticonic. Von Bergmann (loc. cit), however, was the first to demonstrate experimentally and clinically, that vagotonia is the predisposing factor to an ulcer. This he did in 1913. The pathological relationship of gastric ulcer to vagotonia was further demonstrated by Held and Gross, Kast, and Fischer, among others, in 1914 and 1915. A logical osteopathic basis for the etiology of peptic ulcer has been written time and again by medical authorities. It has...
stood the test of time in spite of the many subsequent studies with a different approach. Sanger explained the neurogenic factor on a basis of neuritis of the vagus as the cause of ulcer while Harvey Cushing has suggested that ulceration results from an irritative disturbance of either the fiber tracts or the vagal centers, deleteriously affecting the intrinsic innervation of the stomach.

Osteopathic Lesions in Cervical Region

In this connection, it is significant to the osteopathic physician that Emanuel Libman, of Mt. Sinai Hospital, New York City, pointed out some years ago that the sensitivity of ulcer patients to pain can best be determined by exerting pressure behind the tip of the mastoid process and toward the styloid process. In hyposensitive people, any amount of pressure with the fingers does not cause pain, whereas in hypersensitive individuals it causes much pain. Matthews states that, “If this sign is utilized, it will often be possible to make a diagnosis of ulcer even in the presence of very little or no pain.”

In the Outpatient Department of the Philadelphia College of Osteopathy, every patient with peptic ulcer or gastric hypersecretion has exhibited osteopathic articular lesions at one or more of the upper three cervical levels. The determination of altered spinal physiology is made by a group of technicians who devote their entire time to this single assignment, in the dispensary. It is a rule that the spinal column be examined and the findings recorded before the interns’ studies are begun. In most instances, the technician sees nothing but his own record of the case at the time of the original admission. It is, therefore, impossible for the physician examining the vertebral structures to preconceive the possible abnormalities. Hence, it would seem that the sensitivity which Libman found might be but one of the diagnostic criteria of osteopathic lesions in the area palpated.

Inflammation and Focal Infection as Etiological Factors

The third etiological factor suggested is that of inflammation and focal infections, particularly those of the upper respiratory tract. All the evidence concerning the activity of bacteria in peptic ulcer points to the fact that infection is, at the most, a secondary consideration. No parallel can be demonstrated between the flora of the mouth and the agents in the ulcer. Furthermore, cultures from the tonsils of ulcer patients are rarely identical with the bacteria demonstrated in their stomachs. In fact, E. W. Saunders, of Bellevue Hospital, New York City, has stated that the streptococcus demonstrated in the ulcer is definitely not of the mouth or respiratory type. Such findings are quite significant. And yet a standard and recognized medical text, 19 states that infection is the most important factor in peptic ulcer, especially infection of the teeth or tonsils. In spite of the variability of the bacteriology and the discrepancy between the type of organism in the mouth and in the ulcer bed, serologists are still vainly attempting to combat peptic ulcer with autogenous vaccines and anti-streptococcic sera. Very complete and searching bacteriological studies already have disproved the principles underlying this treatment and I am sure that future studies will eventually discourage the use of sera in any case, especially since animal experimentation has been decidedly inconclusive as to their efficacy.

If peptic ulcers were caused by infection of the stomach, the results of surgical treatment would more nearly approximate the cures of acute appendicitis following appendectomy. Recurrent, marginal ulcers appear in at least 25 per cent of surgically treated cases of peptic ulcer, even when subtotal gastrectomies are done. Many surgeons, therefore, use only a simple closure operation for ulcer, even after perforation. The post-operative program is exactly the same as the one used in the conservative management by the internist.

“Ulcer Diathesis”

The fourth etiological factor to be considered is ulcer diathesis, which is entirely hypothetical. It is only necessary to study current statistics as compared with those at the beginning of the century to realize that anthropometry or anomaly has no actual bearing upon ulcer pathology in the stomach and duodenum. Anthropometry and anomaly are essentially stable factors in the human race and, therefore, one cannot conceive of their importance in the percentage increase of peptic ulcer in the last 30 years.

Aggression of Acid Chyme—Defense of Tissue

The etiological factor of aggression and defense whereby an imbalance results from a greater aggression of the acid chyme and a lessened defense of mucosal tissue is merely another way of explaining an imbalance of secretion which may be due to neurogenic factors. This, therefore, is further testimony in the consideration of neurogenic factors.

The same philosophy applies to the seventh factor—the systemic. This systemic factor is explained on a basis of a susceptibility to ulcer through the influence of nervous and psychic trauma. It is obviously and exclusively neurogenic in origin.

Neurogenic and Circulatory Factors Predominant

Of all the agencies concerned with the production of peptic ulcer there are two which, in the light of present knowledge, are definite. The circulatory factor cannot be denied, and the neurogenic factor is rapidly assuming the greatest importance. Since it is upon etiology that treatment depends, we cannot consider the one without an understanding of the other.

Anatomical Distribution of Peptic Ulcer

The distribution of peptic ulcer in the stomach and duodenum furnishes a definite basis for an analysis of motility and circulation.

According to the Cole Collaborators, 60 per cent to 70 per cent of all peptic ulcers are prepyloric or postpyloric. This information is important in the consideration of the circulatory phenomena which predispose to the production of ulcer. In these regions, the pre- and post-pyloric, the blood supply is the poorest of the entire stomach. For it is at just this point that an anastomosis of ascending arteries from the duodenum and descending arteries of the stomach takes place. The left gastric, the right gastric and right gastroepiploic branches of the hepatic, and the left gastroepiploic and short branches of the gastric, and branches of the linal supply the stomach. The arteries supplying the duodenum are the right gastric and the superior pancreaticoduodenal branch of the superior mesentric. An anastomosis takes place around the pylorus whereby but few of the anterioles are found in the muscularis mucosa. The mucous membrane in this area is supplied by the branches of but one artery. Hence, any involvement of the circulation will find this part especially vulnerable, since a collateral circulation to the mucosal lining is relatively impossible. Disturbance of the vasomotors is brought about by effects upon the splanchics from which the impulses
originates to pass through branches from the coeliac plexus and to the stomach.

It is most interesting to read of the findings in peptic ulcer of Boas as cited by Matthies (loc. cit.): "The point of tenderness, posteriorly at the height of the twelfth dorsal vertebra,—is at times encountered." As early as 1903, Mendel stated that it was remarkable that the tender point (in the spinal column) could be better elicited by striking it with a percussion hammer than by pressure. To these observers of past decades, this spinal symptomatology was only of diagnostic interest. From an osteopathic standpoint, however, the elicitation of paravertebral tenderness is a manifestation of characteristic changes in and around the spinal articulations. The mobility of the segments and muscular change were not mentioned. If they had been mentioned, the occurrence of all the objective criteria of osteopathic lesions would have been written. If, then, an incontrovertible relationship between the development of peptic ulcer and the specific distribution of spinal changes indicative of osteopathic lesion can be established, the work of Boas and Mendel is confirmed, as well as enlarged. The osteograms' (spinal records) of the spinal findings on clinic patients in Philadelphia show vertebral articular osteopathic lesions in this same area, in every case of peptic ulcer. As stated before, the routine spinal examinations and recordings are made by physicians totally unfamiliar with any patient's medical history or chief complaint.

Osteopathic Lesions in Lower Thoracic Area

Though this does not conclusively prove an osteopathic etiology for the circulatory factor in ulcer, it is more than circumstantial evidence, which at the present time cannot be contradicted. It can stand scientific scrutiny, and I therefore offer the thought that osteopathic lesions in the lower thoracic area are causative of the circulatory changes which result in peptic ulcer. Further support for this proposition can be obtained by a review of some facts concerning the physiology of the stomach.

Physiology of Gastric Motility

The normal movements of the stomach during digestion are essentially as follows: first, the fundus becomes active and then the antrum contracts and the pyloric sphincter relaxes. Although it is generally taught that the vagus is predominantly motor and the splanchnic inhibitory, contraction or relaxation may occur on stimulation of either nerve, depending on the tone of the musculature. The stomach is an automatic organ, in that it can perform its functions in the absence of the vagi and splanchnics and, like the pylorus, its intrinsic nerves are sufficient and competent for satisfactory function.23

The irregularity in gastric forcefulness, rate and rhythm of impulses, has suggested gastric systole and diastole to some observers (L. G. Cole), while others believe that the movements are too irregular to be so described (W. C. Alvarez).24 Moving picture studies by Cole seem to prove his contention that systole and diastole actually occur in the stomach, and that the pylorus is open only during gastric systole.

The theory of acid control of the pyloric sphincter is untenable. According to this theory, acid on the gastric side opens the sphincter and acid on the duodenal closes it. Alvarez,24 as well as Luckhardt, Phillips and Carlson,26 practically proved that such action does not take place. Some clinicians insist that alkalosis introduced into the diseased stomach aid in its emptying and prevent pylorospasm. This premise seems rather incongruous from the biochemical standpoint, and yet it has been substantiated by a sufficient number of clinical investigators to suggest it as a clinical fact. Ivy and Fauley,27 in 1929, proved that hunger prior to eating hastens gastric emptying time, and food eaten with pleasure leaves the stomach faster then otherwise. Their experiments would indicate that the higher centers have much to do with the emptying time of the stomach. The admitted effect of alkalosis in peptic ulcer may also be entirely psychological, and dependent upon the same mechanism which causes favorable thought to operate in connection with gastric emptying.

Gastric Retention and Regurgitation

According to Berkman,18 of Mayo Clinic, gastric retention is due to actual organic stricture of the pylorus or to functional interference with the motive power of the stomach. Obviously the functional aspect holds in most cases of peptic ulcer. Alvarez observed that the stomach, like the heart, has an extrinsic and an intrinsic nervous mechanism. Owing to the marked difference in the distance to be traversed, synchronous waves passing along the greater and lesser curvatures must travel at different speeds in order to reach the pylorus simultaneously. Should these waves lack proper rhythm, regurgitation of stomach contents results. Hence, a balance of vagal impulses to its right and left gastric branches, respectively on the posterior and anterior aspects of the stomach, and a balanced innervation of the intrinsic nervous mechanism is essential, or retention followed by regurgitation results.

According to Pottenger,29 the chief activating system of nerves for the pylorus is the sympathetic. If such is the case, irritative factors at the origin of this system at the cord will undoubtedly influence pyloric sphincteric action and cause pylorospasm. The increased number of stimuli may originate in the affected mucosa of the stomach and thereby cause a vicious reflex in the pylorus. Furthermore, the pain of ulcer in the upper left quadrant of the abdomen is an expression of a referred sensory phenomenon resulting from over-stimulation of visceral afferent nerves arising in the ulcerated area. These neuro-physiological facts rather pointedly suggest the mechanism behind retention and regurgitation in peptic ulcer. It may be presumed that osteopathic lesions in the upper cervical and lower thoracic areas undoubtedly cause at least an indirect effect upon the vagus and a direct effect upon the sympathetics. Since it is upon a basis of abnormal vagal and sympathetic control of gastric motility that retention and regurgitation depend, these symptoms probably arise from involvement of the spinal areas from which the stimuli arise.

It is interesting as well as instructive to read of the work of Wilder Penfield,28 who definitely places the responsibility for the occurrence of some peptic ulcers in the hypothalamus. Experimentation has shown that stimulation of the infundibulum first causes increased secretion in the stomach, then, when continued it produces hyperemia and finally ulceration.

According to A. C. Ivy, a strong emotion may cause spasm and hypermotility of the stomach. He reports a case of hysteria in a young girl who received a phone call which brought word that her fiance had eloped with another girl. Within 15 minutes she suffered pain, nausea, and vomiting. Subsequently, another phone call brought information that her fiance had not eloped. In a half hour following the second call, the patient's symptoms disappeared entirely and subsequent radiographic studies disproved any reflex disturbance. It would seem that chronic ulcer must originate in some cases from continued emotional influences of a grade similar to this cited instance. Alvarez has reported two other cases which exhibited hypermotility due to hysterical causes. No more pertinent data could be cited in the presentation of neurogenic etiology.

If, then, the management of peptic ulcer is to depend upon its etiology, it is quite evident that all neurogenic factors must receive primary consideration. Medical treatment has been so conceived, but it lacks the positive approach that is possible under osteopathic management.

The paravertebral reactions found by Libman and by Boas (loc. cit.) and which we call "spinal lesions" definitely suggest an outward effect upon the impulses which admittedly control the secretion, motility, and circulation of the stomach. And since these are the factors upon which the occurrence of pep-
OSTEOPATHIC DIGEST

Pert ulcer depends, their correction is of the greatest importance. Physiology has established and research has confirmed the fact that manipulation of the tissues around the spinal column has a direct effect upon the impulses passing over the sympathetic and parasympathetic nervous systems. Furthermore, manipulation of the spinal structures in the lower thoracic and upper cervical regions entirely removes the sensitiveness originally found. A wealth of clinical proof is available to substantiate the claim that osteopathic manipulation normalizes inflammatory reactions in spinal articulations. Hence, by the process of logic, osteopathic manipulation is capable of removing the cause of peptic ulcer.

It is an established fact that ulceration in mucous membranes heals quickly in the medium of a normal circulation and a proper acid base balance. The element of circulation is not only cared for by the normalization of impulses over the vasomotors, but also by the physical rest invoked during the period of treatment. Concerning the acid base balance any one of the usual smooth diets for ulcer is so constituted that the pH of the blood and tissues is maintained at a satisfactory level.

**REST**

There is no more valuable adjunctive agency in establishing normalcy in the nervous system than rest. Hence, the patient with ulcer should be encouraged to rest as much as his economic status will permit. Ideally, rest in bed for a period averaging a month is necessary. There are some physicians who insist that the disease process heals more quickly if the patient is placed in bed, for the reason that the supine position tends to straighten out the nutrient arteries which are tortuous when he is erect. Alvarez, however, believes that ulcer can heal even though the patient is ambulatory: this we know to be true, in some cases.

**DIET**

The diet for peptic ulcer has been a subject seriously considered by the medical profession for many years and we might well be guided by the results of the more accepted studies. Among the standard diets that assume importance are the following: Sippy, Alvarez, Bastedo, Smithies, Lenhartz, Coleman, Basler, Rehfuss, and the Hurst and Stewart. Personal preference seems to direct opinion concerning the relative value of the multidinous routines set down by various observers. I believe that any one is satisfactory, though I usually outline the Sippy, Smithies, or Alvarez program for my patients.

**ALKALIS**

In the average case of peptic ulcer, no medication is necessary, and unless unusual circumstances arise the use of carbonates, bicarbonates, phosphates, and the like can be omitted. The administration of these alkalis will never correct the hyperacidity and it is doubtful whether their action does more than palliate, at best.

Bastedo has this to say concerning the use of alkali in peptic ulcer, "However much alkalis relieve ulcer discomfort or pain at the outset of treatment, the evidence is strong that they do not cure ulcer." He mentions other authorities who substantiate his statement among whom are two, Bloch and Serby, who have entirely abandoned the alkali treatment. Mucin may be used effectively instead of alkali.

Various preparations of bismuth, administered by mouth have been used with varying success in peptic ulcer. While these substances may relieve nausea and vomiting in some cases, they cause the same symptoms in others. The position held by some that bismuth is curative is untenable, and hence its use can never be considered as a routine necessity.

**USE OF SERUM—REMOVAL OF INFECTIVE FOCI**

On a basis of ulcer formation as a result of infection of the gastric mucosa, various sera and bacteriophages have been used for peptic ulcer. The results obtained do not warrant serious consideration of this form of therapy, especially since it has been abandoned by the majority of those who first employed it. Little can be found in recent literature concerning the use of serum.

It would seem that the decision concerning the removal of foci of infection is one to be made in each individual case. While all evidence seems to contradict any claim that infective foci cause peptic ulcer, there is some basis for their removal in certain cases. If the cooperative patient does not respond satisfactorily to a sound program of osteopathic management, within a few weeks, diseased teeth and tonsils should be removed.

**OSTEOPATHIC MANIPULATIVE**

Essentially, the entire management of peptic ulcer, by the osteopathic physician, is based upon spinal manipulation. Sudden mobilization of the lesioned articulations can be practiced unless perforation is impending. In the latter event, it is advisable to use soft tissue technique and passive motion of the various segments involved until such time as healing of the ulcer bed takes place. Manipulation of the paravertebral tissues furnishes an excellent means of securing benefit. To be important, however, it must be applied with the same perspicacity that characterizes articular mobilization. It has been my experience that manipulation over the belly of the spinal muscles is much less effective than the direct treatment of the muscular attachments. Spinal traction is invaluable in these cases, especially when applied to the cervical region. Manipulative technique devised to put individual articulations through their normal range of motion not only contributes to the relief of symptoms, but it is actually curative. X-ray control is essential in impending perforation.

Local manipulation over the epigastrum does not seem to be indicated, but in those patients in whom constipation is present, direct treatment of the descending colon might be inaugurated. Treatments are applied daily until the patient begins to gain weight, after which the interval between visits can be lengthened. The spacing of treatment depends entirely upon the type of manipulation and the response of the patient. The correction of the osteopathic lesions is essential if a permanent cure is to be expected.

I believe, on a basis of the studies made so far, that a specific distribution of spinal abnormality is often found in peptic ulcer. If such is the case, and the etiology originates fundamentally in the deranged spinal articulations, cure cannot take place until normal motion is established in them. In cases of recurrent ulcer, I am convinced that the osteopathic lesions have not been corrected.

**COMPLICATIONS**

The commonest complications of peptic ulcer are perforation and hemorrhage. There is but one treatment for a perforated ulcer; prompt surgical intervention. This paper should not elaborate upon surgical procedures, but it is well to repeat the well-established fact that if perforated ulcers are operated upon within the six hours following perforation, practically all patients will recover. With each additional hour of delay, the prognosis becomes graver. The reason for the so-called "six-hour warning" is the fact that the peritoneum digests all bacteria and their toxins for that length of time, but loses this ability immediately thereafter. Animal experimentation has confirmed this surgical fact.

The first gastric hemorrhage is rarely fatal and it does not require immediate surgical treatment. Repeated hemorrhage, however, is another indication for gastric surgery. The treatment of an initial gastric hemorrhage is absolute quiet, sedation, no food or water by mouth, ice caps to the epigastrium, and heat to the extremities. In the dehydrated patient, infusions of glucose and saline solutions into the rectum are necessary; if the blood loss is great, transfusions may be needed. Blood
coagulants are of little value. It is frequently found that cases which have hemorrhaged recover very slowly. In this circumstance a program of transfusions and fluid injections must be incorporated into the management. I do not think that any manipulative measures should be employed at the time of hemorrhage from a peptic ulcer.

A rare complication of peptic ulcer which requires operative treatment is organic pyloric stenosis. Then there are some cases which, fully treating peptic ulcer, but I believe that fully the various standard adjunctive agents are unable, or refuse to cooperate in the conservative program—these inevitably go to surgery.

SUMMARY

This paper has been prepared with the hope that it might establish a foundation for further work in proving an osteopathic etiology in peptic ulcer. Though I am sure in my own mind that such is the case, I have endeavored to analyze the subject from the scientific standpoint and upon a basis of the voluminous work done by our contemporaries in this field. I would like to propose a definition of peptic ulcer, as a constitutional disease, the result of inflammatory reactions in and around the spinal articulations (osteopathic lesions), exhibiting gastric symptoms characteristic of hypermotility and hypersecretion, and brought about by derangement of the autonomic nervous system.

No attempt has been made here to discuss fully the various standard adjunctive agencies such as diet, rest, antacids, and the like. I feel that they all may have a part in successfully treating peptic ulcer, but I believe that the cure of the disease is obtained primarily by treatment of the vegetative nervous system. This falls within the known scope of osteopathic manipulation. Due to the total absence of definite statistics in our literature I have not attempted to contrast results under osteopathic care with those of the older school, but I would not fear such a comparison.

Pursuroply, the title of the paper has been strictly adhered to, without unduly elaborating upon statements which seemed essentially irrelevant thereto. However, most of those statements are confirmed by the list of references appended. Detailed information on any point can be obtained from this material.

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GRADUATES OF P. C. O. ARE BROADCASTING WEEKLY

Dr. L. C. Wagner Flooded with Inquiries

"The type of child who catches every cold or disease that appears among his playmates is usually lacking the proper amount of calcium in his make-up," said Dr. Leo C. Wagner, Associate Professor of Pediatrics at the Philadelphia College of Osteopathy, in addressing the large radio audience over Station WIBG, every Friday afternoon.

A tendency on the part of parents to feed their children too much bread and starchy foods will have a corresponding tendency to deplete the natural supply of calcium in the body. More fruits and vegetables will increase it."

There are many reasons for a poor appetite in a child," continued Dr. Wagner, "some physical and some emotional. Frequently, the child may refuse to eat, merely to attract attention." In a way, Dr. Wagner hinted, it may be the child's means of punishing the parents when he is out-of-sorts with them.

Parents are warned to be firm on the subject, but to remember the child's physical limitations. Too much butter, cream or chocolate in the diet are hard to digest and retard the emptying of the stomach, so that when the next mealtime comes around, the child will perhaps not be hungry.

Do not insist upon the child drinking more than one glass of milk at a meal. The stomach capacity is not large enough to hold the usual food, and an extra glass of milk as well, so that if more than a glass-a-meal is necessary to make up the daily quart, the remainder should be given between meals.

Parents should not bribe the child to eat. Dessert, candy, or something else desirable after the meal should be an individual matter or even a reward, but never a bribe.

Speaking of the child's physical health, Dr. Wagner warns against the removal of tonsils as a panacea. There may possibly be reasons for keeping the tonsils, he explained, although they are troublemakers when they become infected. The best opinion on tonsils, he said, should come from the family physician who has usually been watching the child's general condition.
WITH THE NURSES
Prospects Look Good for Fall Class

THE prospects look bright for the Nurses Class to be entered into our Training School in September, 1936. Applications are coming in daily from young women from all parts of the United States and Canada.

The raising of qualifications for entrance to Training Schools by the State Nursing Educational Department has not diminished the requests but seems to have increased the desire of High School graduates to make Nursing their Profession. This raising of the educational requirements does not affect the Osteopathic Hospital of Philadelphia Training School for Nurses in any way as we made our minimum entrance requirement four years of high school training, four years ago when the first large class was admitted to the school.

At the present time, in endeavoring to select students, we are concentrating on only admitting young women to our School of Nursing who are in the upper half of their classes in High School, with the thought in mind that even though all of our students have been High School graduates, for the past few years we have found the theoretical course somewhat difficult. We feel if we select young women from the upper half of their classes from the standpoint of averages that perhaps we shall eliminate this difficulty. Our passing grade for classwork has also been raised from 70 per cent to 75 per cent since September, 1934.

It is our desire to have only the highest type of young woman in our Training School and we feel that we have rather an outstanding group of nurses. They are all refined, well-bred young women and we want to do even more in this respect as long as it is compatible with young women being also willing to work with their hands. Experience has shown that all young women who are exceptional in theory are not always the best nurses and it is our endeavor to weld the two together.

Our first large class in September, 1932, was acquired after our writing the Osteopathic Physicians all over the United States. Their cooperation was instrumental in our being able to obtain some very fine specimens of young womanhood. We trust they will continue this cooperation and refer young women interested in the Nursing Profession to the Training School Office. Any doctor or student who knows of any desirable young women contemplating the Nursing Profession as their life work may receive any information regarding admission to our School by writing the Directress of Nurses. Applications should be made by July 1st.

At the present time we have about one hundred (100) applicants for the fall class and anticipate making our selections in the very near future. Applications are still coming in daily so if any doctor is especially interested in any young woman entering our School this fall please get in touch with us at a very early date.

HELEN B. HARDCASTLE, R.N.

ACTIVITIES AMONG OUR NURSES

The Student Nurses held their first Spring Formal at the Brookline Country Club on Friday evening, May 1st. The affair was given in honor of the Senior Class. This dance was chaperoned by Mrs. H. B. Hardcastle, Miss Helen M. Sterrett and Miss Margaret C. Peeler. The heads of the instructing staff of the college, their wives, the residents and the supervisors of the hospital were invited guests. All who attended stated that this was one of the most delightful dances they had ever attended.

The Student Nurses' Association will hold a "Beano Party" in the College Auditorium on Friday evening, May 15th, at 8 P.M. (Do you know what a "Beano" party is? Come and find out). Come and make this party a success. Everybody welcome! Tickets may be procured from any student nurse.

Miss Thelma Fyock, Class of 1937, has been elected to complete the unexpired term as Secretary of the Student Nurse Association. This office was originally held by Miss Dorothy Kelley who, on account of ill health, found it necessary to discontinue her training for the time being. She hopes to return at a later date and complete her training.
Miss Marion Gosper, Class of 1936, had been a patient in the hospital for more than three months. Miss Gosper was discharged from the hospital and is recuperating at home. We trust that she will be able to complete her training in the fall.

On April 1st five of our Senior Nurses began their affiliation with the Philadelphia General Hospital—the Misses Allen, Wisel, Spare, Crandall and Holland. Miss Crandall has entirely completed her training here but because of a long illness at the end of two and one half years of her training her affiliated work had to be deferred until this time. Miss Moore and Miss Gaskill have just returned from their affiliated work, but Miss Bond and Miss Evans of this same group are still making up sick time at the Philadelphia General Hospital. We are anticipating their return the latter part of May. Our nurses have always been held in high esteem by the Superintendent of Nurses and the Instructors at this latter hospital.

Mrs. Helen Bare Hardcastle, R.N., Directress of the School of Nursing, who was granted a two months' leave of absence has returned and has resumed her duties. Mrs. Hardcastle is feeling and looking much improved in health and we welcome her return.

NURSES! Older graduates! Younger graduates!!! And student nurses!!! Don't forget the Lawn Fete to be given by the Ladies Auxiliary on the Hospital Lawn, Wednesday, May 20th, afternoon and evening. Plan to eat your luncheon and dinner on the lawn, and on your "hours off" show your interest by offering to be of service to them.

On April 17th a "Cootie Party" was held by the Alumnae Association with the usual enthusiasm and success. Those who have never attended one of these parties should plan to do so next year as we make this an annual affair.

Miss Helen M. Sterrett, Instructors of Nurses and Miss Margaret C. Peeler, Supervisor of the Osteopathic Floor, have been attending a course of lectures this term at the University of Pennsylvania given by Miss Annie Godrich, of the Yale School of Nursing.

**New York Students Eligible for Admission this Fall**

The registration of the three colleges of osteopathy now registered by the State Education Department will cease on September 1, 1936, because none of the schools is able to meet the preliminary education requirement effective September 1, 1936.

Inasmuch, however, as the Philadelphia College of Osteopathy will be able to meet the advanced requirement on September 1, 1937, students from New York entering the school in September, 1936, will be admitted under the following conditions:

1. That the individual students seeking admission to practice in the State of New York entering the school in September, 1936, shall have met the specified preliminary education requirement of two years of college work.

2. That the Department finds it possible after inspection to register the Philadelphia College of Osteopathy as of September 1, 1937, and that the registration continues thereafter until such students shall have graduated.

**Management to Feature Annual Review Course**

The Annual Review Course of the Graduate School to be given from July 6 to 16 has been designed this year to emphasize the newer thoughts in management. The work is being planned to fill the needs of the general practitioner and the specialist for practical analyses.

Mornings will be devoted to the presentation of material of general interest, and during the course two symposia will be included, one on allergy and one on disorders involving the vegetative nervous system. Afternoon sessions will include presentation clinics, general and special clinics, hospital ward rounds, and presentations in the various specialties. Evenings will be devoted to special features including special lecturers, research, technique, banquet and others. Technique demonstrations will, as usual, be accorded a prominent place and will include subjects which have not previously been emphasized.

The dates for the course have been established with the idea of affording opportunity to stop over at Philadelphia on the way to New York and the National Convention. We hope that you will find it convenient to be with us.

The complete program of the course will be ready June 1 and may be had by addressing the Registrar, 48th and Spruce Streets, Philadelphia, Pa.

**Academy Notes**

The Philadelphia Academy of Osteopathy has met on two occasions since the publications of the last OSTEOPATHIC DIGEST. The March meeting, held in the college building, was devoted to the subject of arthritis. Dr. John J. McHenry read the principal paper, which was formally discussed by Drs. Lloyd, Py and Hayes. Following informal discussion, Drs. Stiegler and McDaniel presented abstracts of current literature pertaining to chronic joint disease.

The stated meeting for April was held on the 30th, in a private dining room of the Garden Court. After dinner had been served, Dr. Edgar O. Holden was presented for honorary membership. His thesis was developed about the relationship of the academy to the college and to osteopathy. The induction preceded the professional program which included a principal paper by Dr. Earl F. Rice, titled, "Today's Concepts in Endocrinology," and prepared discussion by Dr. Ralph L. Fischer. In the business session which followed, Drs. Talbert Struse and Wm. MacDougall were elected to associate fellowship.

The May meeting has been scheduled as a dinner meeting, with the subject of functional heart diseases as the topic of the evening. Dr. William F. Daiber will give the principal address.
DR. C. H. MUNCIE OPERATES
Three Interesting Cases Presented

THREE totally deaf adults were operated upon, Wednesday morning, at the Osteopathic Hospital, 48th and Spruce Streets, by Dr. Curtis H. Muncie, of New York City, outstanding aurist. The noted surgeon demonstrated his operation and technique on the reconstruction of the eustachian tubes. He invited scores of physicians and students to witness the immediate improvement in the hearing by actually measuring and determining these changes with scientific instruments and apparatus.

Dr. Muncie says "It is found that most deafness is caused by a deformity or derangement of the Eustachian tube. This affects not only the air pressure within the middle ear but, of greater importance, reflexly disturbs the circulation within the inner ear by causing a vasomotor imbalance.

Reconstruction of the Eustachian tubes normalizes them, establishes normal air pressure, re-establishes normal circulation in the inner ear which in turn restores health to the tissues and hearing to the patient providing the nerve of hearing is not degenerated."

These results in restoration of hearing through Reconstruction of the Eustachian tubes in cases without drums, nerve deafness and otosclerosis" said Dr. Muncie, "explode the air pressure theory of deafness and give reason why inflation has failed since its origin 200 years ago. It is supplanted by the osteopathic lesion theory, which has proven to be more than a theory in this method in that its correctness has been proven by the results accomplished. In other words, results came first through a certain technical procedure, and reasoning from cause to effect a theory or principle has thus been established.

Restoring hearing to cases without drums, nerve deafness, and otosclerosis disproves the air pressure theory but proves that a deformity of the Eustachian tube is the underlying cause of these types of deafness and correction of the deformity restores hearing by favorably influencing not only the middle ear but the inner ear structures. Heretofore, otologists considered that any trouble with the Eustachian tube affected only the middle ear and that through an alteration of air pressure."


He is a member of the American Osteopathic Association, American Osteopathic Society of Ophthalmology and Otolaryngology, New York Osteopathic Society, Eastern Osteopathic Association and American Association of Orificial Surgeons.

Dr. Goodfellow Discusses Materia Medica

THE only way to become good Osteopathic Physicians and to have our colleges recognized on the same plane as the best medical schools is to require a college degree for entrance credit and to teach a complete course in materia medica. This statement was made by Dr. Walter B. Goodfellow, of Los Angeles, in his address to the senior class recently.

In explaining, Dr. Goodfellow said, that in order to understand the allopathic system of therapy, it is necessary to know the foundations of their systems. In other words it is necessary to have a complete knowledge of materia medica as it is taught in their school and not by side-tracking the issue as some of our osteopathic schools have, by teaching their students a course in Comparative Therapeutics, an inadequate substitute if any. It is only then, that we can realize the futility of drug therapy.

"There is nothing to be gained by increasing our requirements for admission into our schools, gradually. Why not jump the gap and raise our standards of admission to a four-year college degree? There are thousands of college graduates, who are seeking the practice of the Healing Arts today. What a large group of trained men to appeal to if our colleges had the same entrance standards as the best medical schools in the country, and if we could show them that only in an osteopathic school could they get the broadest and most complete course in medicine."

BYRD LECTURE THRILLS AUDIENCE

Admiral Byrd is officially welcomed at the Hospital by Dr. David S. B. Pennock.

Rear Admiral Richard E. Byrd, aerial conqueror of both Foles, whose recent discoveries in Antarctica have added thousands of square miles to the world's map, addressed a large matinee and evening crowd at the Metropolitan Opera House for the benefit of the Osteopathic Hospital and its Clinics. The noted explorer visited the hospital and inspected many of the wards. Officials greeted the Admiral in Dean Holden's office.

Nine thousand feet of thrilling new motion pictures depicting vast areas upon which human eyes have never before looked illustrated the famous explorer's own story of his recent adventures.
ATHLETICS AT THE CONVENTION
P. C. O. GRADUATE IN CHARGE

ONE of the most interesting sessions of the Fortieth Annual Convention of the American Osteopathic Association at the Waldorf-Astoria Hotel, New York City, will be that one devoted to a "Conference on the Osteopathic Care of Athletes," which will be held the afternoon of Thursday, July 23rd. This will be under the leadership and direction of Dr. George S. Rothmeyer, of the Philadelphia College of Osteopathy, Vice-Chairman of the Athletic Division of the Orthopedic Section. Dr. Rothmeyer has arranged a program which will appeal to all, and particularly to the younger physicians, and will command the attention of everyone interested in athletic sports.

The session will open with a paper "The Game Begins on the Training Table," by Dr. Phil R. Russell, who has made himself more or less famous by his work with the Texas Christian University (Fort Worth) Football Team. Dr. Russell will be followed by Dr. Martin C. Beilke, of the Faculty of the Chicago College of Osteopathy, whose paper will discuss "Providing Protection Without Loss of Speed."

From St. Petersburg, Florida, will come Dr. James A. Stinson, who for years specialized in training athletes and in the treatment of athletic injuries. He will demonstrate "Ways and Means of Preventing Injuries by Protective Bandages, and by the Use of Adhesive Tape."

"The Woman Athlete" will be the subject to which Dr. Olga H. Gross, of Pittsfield, Maine, will give her attention. Dr. Gross knows her subject well as a result of much time spent with the girl athletes of the Young Women's Christian Association, with which organization she is widely known.

"The Psychology of Coaching," will be discussed by Professor Malcolm G. Preston, of the Philadelphia College of Osteopathy, under whose watchful care has passed a long procession of successful athletes. "Osteopathic Care from the Viewpoint of the Athlete" will have the attention of Dr. Harold M. Osborn, a present-year graduate of the Philadelphia College of Osteopathy. Harold Osborn is known wherever the Olympic Games are known and his name comes into any discussion of high jumping and its records. He has represented America in two Olympic Games and established more than one record over the high bar.

"Knee Joint and Joint Injuries" will be discussed by Dr. R. R. Sermon, Director of Athletics at the University of North Carolina, Chapel Hill.

Dr. Harrison J. (Buck) Weaver, to whom was given a large share of credit for the various championships won by the St. Louis Cardinals in the National Baseball League, and who has given his personal attention to the development of the Dean brothers, "Dizzy" and "Daffy," will discuss "Baseball Injuries." By good fortune the Cardinals will be playing the Giants in New York the week of July 20th and Dr. Rothmeyer expects to have several members of that organization present with Dr. Weaver.

The session will be concluded with a demonstration by Stars in various divisions of athletics who will show the right way and the wrong way of executing various movements in contests. Slow motion pictures will be used for other demonstration purposes.

ALUMNI BACKBONE OF A COLLEGE

The alumni constitute a vastly important adjunct of any college. I go so far as to say that the body of the alumni is the backbone of a college, and its main support in times of stress. This is particularly true of the Philadelphia College of Osteopathy, which does not get and does not expect much aid from "outside the fam-

ily." But sometimes the alumni forget their vital importance to their alma mater, and it is well to remind them of it.

How and why may the alumni be so invaluable to the College you ask?

To begin with, the alumnus may feel himself able to render financial assistance to his college. It is true that some alumni feel that all the college values them for is what money they can give it. But this is not so. The giving of money is the smallest part of the alumnus' duty.

Of greater importance is the contribution he may make to the spirit and morale of the College by continuing to show an active interest in it. There is nothing quite so infectious and pleasant to the undergraduates and to the administration of a collegiate institution as the enthusiasm of the alumnus for it. Of course, this enthusiasm must be kept within bounds, so that there will not be constant meddling with the functions of the college; but it should be evident!

Again, the alumnus may and should see to it that the ideals of the College—the ideals of learning, culture, and devotion to duty which it fostered in him—are upheld and not allowed to falter for an instant. For the loyal alumnus should desire to feel an ever-increasing pride in the institution which nurtured him.

Last, and most to be kept in mind, the alumnus may sell the College to the world in general and to prospective students in particular. He is the best agent, the finest representative the College can have in this day of increasing competition in the field of collegiate and professional education. The power of an alumnus to steer a potential student to his college is incalculable, but it is tremendous. If he feels confident of the ability of his alma mater, then, to meet all the needs of the student, he is in an ideal position to persuade the prospect that his college is the one to select. And if I am to judge by what I have seen, the Philadelphia College of Osteopathy turns out alumni who have merely to present themselves as the best possible arguments for going to P. C. O.

Donald N. Koster,
English Department, P. C. O.
Junior Class Honors

PAUL T. LLOYD

Dedicate Synopsis to Popular Physician

A WORLD that is continually changing its mind, its ideals, and its standards, cannot fail to produce a similar effect on the characters of many men striving constantly to adapt themselves to these changes.

In Dr. Paul T. Lloyd we find a man unaffected by these inconsistencies; a man generously endowed with all the several qualities which are the hallmark of a gentleman, a scholar, and a physician; a man respected and admired by all who enjoy the privilege of his acquaintance and friendship. His disposition impresses itself upon all who come in contact with him, not only for his quiet, friendly dignity, but for a certain ethical self-assurance which is so much a part of his manner, emulated by many, by very few attained.

His work is at all times of first consideration, taking precedence over all his other interests; his working hours are twenty-four a day, seven days a week. It is entirely due to his efforts and enthusiasm that our department of Radiology enjoys the distinction of being the finest and most completely equipped in the city of Philadelphia. Yet in the face of great professional prominence and many honors deservingly conferred upon him as a result of years of valuable work in his specialty, he maintains himself first and foremost a professor of Osteopathy. His faith in and love for the institution to which he has already given so much, are shown in the pride with which he identifies himself with it.

In many ways has credit due to himself been reflected upon the College of which he is a son. Every one of us owes a great debt. May we be inspired by the example of this generous and unassuming man to make good our obligations. His own he has more than repaid.

And so in some small measure of appreciation and esteem we, the Class of 1937, dedicate our Year Book to a great Radiologist, a physician, and a friend . . . PAUL TURNER LLOYD.
Women's Auxiliary Hold Elaborate Lawn Fete

Mrs. Doyle and her hard-working committee did a good job at their annual Lawn Fête held on the hospital grounds, Wednesday, May 20th.

The feature events for this year surpassed the program of the past years. The palatable luncheon was popularly received for forty cents, and the most enjoyable and well-cooked dinner for sixty cents, were again repeated with more food and more attractive plates that satisfied any taste or desire.

This wonderful group of women have been supplying all the linens to the hospital for years. They feel the keen responsibility for the success of this affair, and are appealing to every person to assist, as it means more money to pay bills and more linens for people who need them.

Junior Aide News

THE second annual meeting of the Junior Aide Society of the Osteopathic Hospital was held on March 24th at the Garden Court. The following officers were elected: President, Mrs. Helen C. Hessdorfer; Vice-President, Miss Ruth A. Palmer; Recording Secretary, Mrs. Bert Wert; Corresponding Secretary, Mrs. Elva Tyler; Treasurer, Mrs. Stella C. Adam.

The outgoing President, Mrs. Elizabeth C. Flack, presided over the meeting and, after her farewell address, was presented with a gift as a token of the Aide's appreciation of her unceasing efforts in its promotion and her fine work during its first two years of existence.

An invitation has been extended to have a representative give a report on our activities for the year at the O. W. N. A. Luncheon held at the Hotel Pennsylvania at the time of the Eastern Osteopathic Association Convention. Due to the inability of our President to attend, Miss Ruth Palmer was appointed to represent us.

Thunder in the Air

The Plays and Players of Philadelphia gave a Benefit Performance for the Osteopathic Hospital on April 30, 1936. The play, entitled "Thunder in the Air," is a story of a ghost who comes back to each member of his family and the two women he loved as these various people pictured him in their memories. It afforded a very dramatic evening.

Mrs. Adelaide B. Snyder, wife of Dr. C. Paul Snyder, Philadelphia ophtalmologist, directed the play.

The little theatre was crowded to capacity, due to the efforts of a very efficient committee of Junior Aide members, namely:

Miss Ruth Moore, Miss Betty Penrose, Miss Ruth Wilson, Miss Ruth Palmer, Miss Kay Geisdorf, Miss L. E. Kenney, Mrs. Robert Adam, Mrs. Howard Roberts, Mrs. J. M. Eaton, Mrs. Harry Hessdorfer, Mrs. Arthur Flack, Jr., Mrs. Hermon Kohn, Mrs. G. Cole, Mrs. Earl Gedney, Mrs. Howard Tyler, Mrs. Rossman Wert, Mrs. R. McCorkle.
Once again amidst a large crowd interested in the annual tapping for the highest honors at P. C. O. the committee at the special time arranged, tapped Drs. O. J. Snyder, Donald B. Thorburn, and C. Haddon Soden. The students selected were Harold M. Osborn, William J. Furey, Reed Speer, Donald S. Gibbs, Henry Maciejewski, Arthur H. Bunting, Richard M. Jamison, and William C. Soden.

The men were tendered a special banquet at which time men in the field already honored greeted the new members. Election of officers will take place in the very near future.
THE ARUNGE

These pages are devoted to the students' work and activities of the college.

ALOHAI

Another year has drawn to a close, in which the student body has played an active part in student government through their respective class representatives.

It has been the aim of the present Council to have a true body of men who will stand up for the student welfare and promote that feeling of independence and self-government which should and always will be a part of the student body.

The cooperation given by the Dean and faculty is thoroughly appreciated and we, the members of the council, take this occasion to thank those who have made this possible.

We have tried to be fair in all matters considered thereby keeping up the established precedent which has always been a part of Osteopathy.

If we have not attained all we may have wished, it has not been due to lack of enthusiasm or cooperation but rather than it has been beyond our power to do more.

In closing another chapter in the history of the Council we wish to extend heartiest greetings and congratulations to those new officers who next year will carry on, and sincerely wish them success and cooperation in their every undertaking.

GEORGE B. HYLANDER, President, Student Council.

STUDENT ACTIVITY BANQUET

Twenty-six athletes of the Philadelphia College of Osteopathy were presented with varsity monograms at the annual banquet held at the Garden Court Café, Monday, May 11th.

George (Bud) Hylander was awarded the D'Eliseau trophy for all-around proficiency in sports, having competed with the swimming and basketball teams for four years.

Guest speakers were Ben Ogden, Temple University track coach; Rev. Clement W. DeChant, Dr. H. Walter Evans, president of the Graduate Council on Athletics; Charles and Anthony Rooser, of the A. A. U.; George Gilham and Dr. Herbert Fischer, an alumnus and former inter-collegiate sports champion; Dr. François D'Eliseau, director of Athletics, president.

The following varisty awards were made: Swimming—H. Barmard, Bud Hylander, Scotty Perkins, Rugerio Plocco, and Simon Labin. Basketball—Arthur Bunting, Bud Hylander, Martin Schnoll, Elias Korn, Robert Korn, and Donald Gibbs.

For the first time, the Senior members of the Musicale ticket were elected by the Senior body to concerns the musicale ticket in order to it in the above mentioned

SENIORS

Down the home stretch with review courses in Anatomy, Physiology, Chemistry, etc. The end is near. Seems like the freshman year again with such familiar faces and Drs. Green, Rottmeyer and Ehrlich. All of which reminds us that Graduation is about one month off—and that "four short years" have elapsed since we first entered the study of Osteopathy.

The class is all set to help Dr. David Pemock celebrate his birthday, at its annual outing as his guests at his home in Wildwood, N. J. (Garden Spot of America). Transportation will be provided for in the form of buses. This is to eliminate the possibility of any driving accidents, especially on the way home. We are told, on good authority, to leave the bottle home. It will all be taken care of.

We were very fortunate to hear Dr. Walter B. Good of Los Angeles, last week. Coming to the Philadelphia College on an inspection tour of all the osteopathic colleges, he addressed the senior class on the Status of Osteopathy in California and the Aims of Osteopathy for the future.

This is our first opportunity of congratulating the successful candidates for internships for the coming year, Warden, Atkins, Ward, Wilcox, Johnson, Miller, Cooper and Hifylly.

There has been a growing interest on the part of the student body in regards to class and school elections. This has been especially manifested in the elections last held. The success of the senior class in particular can be proud of Bob Van Wart for his excellent work in that direction.

There has been, in the last few years, growing resentment on the part of the student body in regards to the manner in which the elections are held and seemingly dominated by members of fraternity groups. This feeling or resentment continued last year in the formation of a Non-Partisan ticket, which fought a game but unsuccessful fight for all school and class officers, except that of Treasurer of the Senior class, Ross Chapin defeating William E. Shub, 36 to 28 and Mary Lulick defeating Marian Tracy by one vote for position of Secretary of the class. The final count was Lulick, 41; Tracy, 37.

In the school elections the fraternity ticket made a clean sweep and by a large majority. Donald Gibbs was elected President of Student Council; Richard Jameson, President of A. A.; Crill Williams, Vice-President of the A. A.; Thomas Fleming, Secretary and Treasurer of the A. A.; William Tannebaum, President of Neurone Society; Herbert Haines, Vice-President of Neurone Society and Katherine Campbell, Secretary and Treasurer of Neurone Society.

Don Avery and Ali Urbont were re-elected to their respective offices, in the Sophomore class. Avery will be President and Urbont, Vice-President of the Sophomore Student Council Representative. Lester Eisenberg was practically the unanimous choice of his class for the position of President of the Sophomore Student Council.

The Freshman class re-elected L. Brown as President of their class and Ruberg as Student Council Representative.

In every election there are always a few votes cast for someone not on the regular ticket or on the official ballot. Our recent elections were no exceptions.

It might interest you to know that "Silas" (colored porter) polled a considerable number of votes for the Presidency of the Sophomore class. With Dr. Pennock's backing and a competent manager, he might succeed next year.

Max West was Silas' closest rival for that position. Maybe Silas can convince Max to become his secretary for the sake of harmony.

Others to receive votes were Clara Bow, Clark Cole, John Rasmussen, Robert Korn, Slim Summersville, Father Coughlin and Joe E. Brown. Not a bad bunch of candidates, eh! (H. K.)

JUNIORS

Once more, one of the great events of the class year is over, namely that of class elections, which in the Junior Year becomes important from the standpoint of both class and higher of school officers. We are very happy to congratulate the members-elect of the Governing Group and also wish to extend thanks to both the upper and lower classmen for their interest in the late elections.

Class Officials: President, D. Young; Vice-President, Paul Green; Student Council Representative, Reed Speer; Treasurer, Ross Chapin; Secretary, Mary Lulick.

School Officials: Student Council President, Donald Gibbs; President Neurone, Tannenbaum; Vice-President Neurone, H. Halles; Secretary and Treasurer, K. Campbell; President A. A., R. Jameson; Vice-President A. A., C. Williams; Secretary and Treasurer, T. Fleming.

The Sophomore Golf Team is also showing some strong opposition to their opponents. We are proud to have in our midst a No. 3 and No. 4 man. These are D. S. Gibbs and J. E. Hughes, respectively.

The Junior Prom a Huge Success

Friday, April 2nd marked the occasion of the most successful Junior Prom of many years. Due in great part to the extremely competent management of Bill Soden and his committee, every detail of the evening passed off without a hitch. Music was arranged by the very well-known and popular Jan Savitt and his orchestra, and the new "swing" music rendered by him was so well appreciated that "Stop, look, and listen" was the order of the evening rather than "Let's face the music and dance."

At midnight the Neo tap-dance was held, followed by presentation of the new Secretary, and we would like to take the opportunity to congratulate the following on their election: Dr. J. J. Snyder, Dr. C. H. Soden, Dr. Donald B. Thorburn, Harold Osborn, Bill Furey, Bill Soden, Donald Gibbs, Dick Jameson, Reed Speer, Henry Maciejewski, and Arthur Bunting.

The committee wish to extend their sincere thanks to all who cooperated to make our yearly ball such a success, and especially to their own class for their continued support and interest in keeping the members of the faculty for their fine support on this of all evenings: It is many years since we have seen such a fine turnout of field men.

SOPHOMORES

Doubtful spring—wind, rain, cold, cloudy and even so little sunshine, has finally turned into real spring—with its penalty of spring fever. A natural laziness has befallen upon all—a non-caring feeling with hanging hooks at the tennis courts and Harry Kerr whistling ditties about spring, love and golf. Such it was until the recent class elections which woke up everybody with a bang—one that seemed to be heard around the school. The officers for the Junior year are: Don Avery, President; Don Christian, Vice-President; Eleanor Brown, Secretary; Clarence Long, Treasurer; Ali Urbont, Student Council, and Lester Eisenberg, Editor Yearbook.

But as someone later remarked—"there ain't a good man in the class!"

The real effects of the election were the reawakening and realization that the end of the term approaches—and then final! Not that the bugleman is any worse than that of other years or that facing other exams, both summer or other springtime studying is at least as fairly unwelcome as the young doctor's first case with a doubtful prognosis—in the latter one has a
chance. Dr. Cattle always insists that only death and taxes are positive entities—num, but how soon the mind of man forgets?

For the oncoming year the class representatives are going to attempt a change in the style of clinic coat to one that will allow more comfort and freedom in treatment. There is also evidence of great interest being shown in the newly organized Cultural and Ritual Societies—the first presentation of which was rather well received.

The newest and most interesting phases of late have gone to the ridiculous to the sublime. On the one, most everyone is making silly notions and asking “what it be?” and at the other extreme the clinic presentations of Dr. Merrymen which are giving us our first active results of two years of study. The class wishes to take this meagre means to congratulate the graduating class and wish them success in their respective fields.

To everyone—we’ll hunt for you in New York!

FRESHMEN

During the first semester the Frosh were working to an awful let-down. Well, it hasn’t come yet and the rest of the members may be identified by their flaming jackets. Yes, the Frosh are even showing signs of absent-mindedness. What was that shoe doing on the hat-rack, Joe? In case this is the last issue of the Decemter, we wish that all of you have a very enjoyable summer and hope to see you next year.

PRE-O’S

"Spring is here!" And the Pre-O’s are sporting all sorts of spring colors and the typical signs of spring fever. Then, too, the “March-April-May” athletics are coming into their own! We have a couple of golf champions, tennis enthusiasts, and even several horse-back riders.

We still miss that “extra” hour, and those of us who do get here, feel like pulling up the covers, ’n’ grabbin’ a few more winks! But that would be disrespectful wouldn’t it? Oh-me! Life is so futile! We’re almost through with our “What-have-we-learned?” courses—(and the chemistry lab) (Ivyway) and are soon finishing touches to biology experiments, (feeding pulpers, observing peristalsis, etc.) but goodness, are we floozing in this space age age of electricity!!

Our secret and our “Little Dutch Boy” had birthdays recently! Cheer up, kids, we all have ‘em! Congratulations!!

Well, we’ve thrown off our coats, opened the bottle of shoe-whitenin’ and begun breathing heftily (cough!) so come on, State Boards—We’re ready for you (almost)!!

Since the rumor that “Mid-night Oil” will soon be a safe investment, yielding profitable returns, there has been less “bubbling” and more bearing down on current assignments.

ATLAS CLUB

The Club inaugurated a series of practical meetings on Tuesday evening, April 21, when Dr. H. Willard Stryker gave an interesting address. Dr. Stryker’s subject was, “The Medicolegal Aspects of Moral Offenses.” We hope to have other prominent members of the College staff speak to us at future meetings.

We wish to extend our congratulations to Murray E. Miller and Clifford L. Ward, Jr., who have been elected interns for the coming year.

The Annual Spring Formal Dance will be held at the Holmesburg Country Club on the evening of May 9th. We extend a cordial invitation to the Alumnus to be present at this Gala Event of the spring season.

The hearty congratulations of the Club are extended to Murray Miller, who took advantage of the Spring and Easter vacation to announce his engagement to Dorothy Evans.

PHI SIGMA GAMMA

On April 18, Phi Sigma Gamma held its annual Spring Formal in the Merion War Tribute House at Merion, Pa. An excellent place to dance, fine refreshments, and good music all blended together to make this evening one that will be long remembered. Furthermore, this dance marked the beginning of Phi Sigma Gamma’s celebration of its Twentieth Anniversary.

Another function that was arranged to complete this celebration was our annual Sage Banquet, held on May 2nd. The memories of the fine dinner at Bookbinders last year, led us to select that place again. The committee secured excellent talent. At our dinner meeting of April 23rd, we were honored to have Mr. John C. Morelock as our guest speaker. Mr. Morelock, a dental technician, has been connected with the Ewashes Dental Institute of the University of Pennsylvania for a number of years. The subject of the talk was the “Relationship of Abnormalities of the Jaw to Disease.” Numerous plaster casts were presented to illustrate developmental abnormalities of jaw structure both before and after treatment. We are greatly indebted to Mr. Morelock for his time and interest in our Fraternity.

At this time, we wish to congratulate all the newly elected college and class officers. These new officers include two of our own members. Dave Young was elected President of the Senior class and Crill Williams as Vice-President of the A.A.

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LAMBDA OMICRON GAMMA

At the pre-Easter meeting, the fraternity was honored by having Dr. Ralph L. Fischer as a speaker. Dr. Fischer’s theme concerned Osteopathic Legislation in Pennsylvania, giving everyone thoughts of the organization that need be maintained in order to further the profession.

An innovation for this year was a combination Senior farewell and National LOC Convention with induction of new officers and taking of the Ritual by the pledges.

The new officers are—Albert Urbont, President; Lewis Keels, Vice-President; Jacob Smyth, Secretary; Norman LaRove, Treasurer; Norman Berman, Sergeant-at-Arms; Lester Eisenberg, Historian.

And taking the ritual were—Brinneman, Cooperman, Gerber, Ruberg, Siekler, Stein and Weltberg. The two-day retreat was capped with a dinner-dance in the Cafe Marlygnto of the Hotel Adelphi.

Herman Kraman was given the Senior Award by Drs. D. and L. Williams for having done the most outstanding work in furthering the relations of the fraternity.

A most interesting class is being conducted by Victor Fisher. The class consists of Sophomores and in an attempt to make use of the techniques that we have been getting throughout the semester. It is evident that the Sophomores are looking forward to an active summer.

The fraternity wishes to offer congratulations to the graduating Seniors, knowing that they will succeed in their chosen field.

THE AXONE SUPPLEMENT

THE MUSICAL SOCIETY Honors Mrs. Sharlip

The musical season at F. C. O. was officially ended April 8, 1936, with the performance of the Fourth Annual Concert. The success with which our efforts was crowed, as witnessed by the enthusiastic reception of the audience, is a source of great satisfaction that we have been getting throughout the semester. It is evident that the Sophomores are looking forward to an active summer.

Following the concert the Society was entertained at a reception, given by Mr. Sharlip, in the Freshmen Room. To say that "a good time was had by all" would be putting things mildly. The highlight of the evening was the presentation of gifts to the talented wife of our conductor, our "Maestro" Miss Jane Sharlip, whose sincerity, enthusiasm and tireless effort serves as an inspiration to the entire musical group.

At this time it is well to announce that the College has seen fit to honor designated Seniors of the Musical Society by inviting them to the Student Activity Banquet where should award appropriate awards be made. The following have been chosen: Morris R. Berard, Cherkoff, Robert Ehrlich, Fredman and Gettier, Philip M. Loessig, Harry Parker, Robert H. Hellew, Victoria Wansley, and Albert Zuckerman.

IOTA TAU SIGMA

The dancing to a close of another school year brings to Delta Chapter pleasant reminiscences of a most successful and highly profitable era, both scholastically and financially.

April 1st brought the annual Fraternity Formal Dance at the Aronimink Country Club—an affair which lingers in the mind of every "IT" and cumulatively grows more enjoyable each year.

May 2nd was the date of the Annual Fraternity Banquet held at the Hotel Pennsylvania. Dr. Chester D. Smiley, of Washington, D. C., served as Master of Ceremonies.

We are indeed proud of Bros. Warden and Hillery, appointed to assume internships for the coming year, and to Southard, elected to serve his second year in that capacity.

May we congratulate the other men, who received appointments, upon their achievements and wish them also the best of success.

Student Activity Banquet—Graduate Council Awards Varsity Letters, Trophies, Sweaters.
CONSULTATION DEPARTMENT

Write E. M. COFFEE, D.O.

Question: Can a graduate Osteopath, as yet unlicensed, become the assistant of a licensed Osteopath in the State of Pennsylvania?

Answer: No.

It is necessary to remember the three divisions of law, namely, Common Law, Statute Law and Judge-made Law. Common Law, derived from the Common Law of England and applicable to the entire United States excepting the State of Louisiana, which derives its basic Common Law from the Common Law of France, defines in a broad way the great principles of law as applied to men and things. Time is not given for the teaching of much excepting the great Common Law principles, always with the admonition, however, to look further into the State Laws in which an individual may be interested.

Federal and State statutes often modify the Common Law in specific fields and must be obeyed. Judge-made laws likewise often modify the Common Law and become Precedents, which influence all future cases. None of these modifications change the basic principles, however, of the Common Law.

The interpretation of the Osteopathic Law of Pennsylvania in respect to the question at the head of this article is given by Dr. H. M. Vastine, Chairman of the State Board of Osteopathic Examiners, and is as follows, quoted verbatim:

"Regarding the right of a graduate, but unlicensed Osteopath, to assist a licensed Osteopath, can refer you to the law, in which there is no provision for so doing. The law clearly specifies that in order to practice Osteopathy, one must have been regularly licensed. There are no provisions for assistant practitioners."

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The development in osteopathy between 1923 and 1936 is such that it commands your attendance in New York City during the week of July 20, 1936.

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ANNOUNCEMENT
Beginning September, 1937, the requirements for admission to the Freshman Class of the Philadelphia College of Osteopathy will be advanced to consist of 2 FULL YEARS of acceptable work in an approved College of Arts and Science.

This pre-medical course must total, in semester hours, one half the requirement for a diploma.

For particulars communicate with the

SIXTH INTENSIVE COURSE IN
OTOLOGY

A sixth intensive course in Otology will be given by Dr. C. Paul Snyder, of Philadelphia, June 29th to July 11th, 1936, inclusive. There will be fifty hours of lectures and demonstrations, the entire course to be completed in two weeks. This course will cover the anatomy of the temporal bone and its contents, functional hearing and vestibular tests, the pathology and diagnosis of aural diseases, and intracranial complications of middle ear suppuration. It will teach the accurate diagnosis of lesions causing deafness, their correction by a moulding digital operation followed by post-operative treatment, to normalize structure and function to obtain maximum results.

An extra private course will be given in Intra-Nasal Technic: diagnosis, pathology and treatment. It will teach the accurate diagnosis of focal sepsis in the head and its associated lesions, the removal of the site of the infection and normalization of the structure and function of the nasal mucous membranes. In conjunction with this course, we will cover the proper selection of cases and technic of tonsillectomy by electro-coagulation. This will be a twenty-five hour course.

The hours are so arranged as to permit time, for those desiring, to visit the free clinics in Philadelphia during the middle of the day.

Address communications to:
C. PAUL SNYDER, D.O., F.I.S.O.
1721 Walnut Street
Philadelphia, Penna.

Class to be limited to not less than five and not more than fifteen.
Doctors who have previously taken above courses may register for half fee, providing class is not filled to capacity.

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(International Society of Osteopathic Ophthalmologists and Otolaryngologists)

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Arrangements may be made by addressing
1. Dr. Jerome M. Watters
2. Dr. C. Paul Snyder
3. Philadelphia College of Osteopathy
The Alumni Association would greatly appreciate having every one to whom this may go, peruse the following names of P. C. O. graduates whose addresses have been lost. Information leading to the location of any of these alumni will greatly aid the Association in completing its records. In case of death please send date or approximate date of decease. Thank You!! Address: The Alumni Association, Philadelphia College of Osteopathy, 48th and Spruce Streets, Philadelphia, Pa.
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