## LOWELL JOURNAL

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Scores of Casen of Sicknem
Caused by Wall Paper.

## Indisputable Evidence b

 Eminent Doctors and Col lege Profensors:Some Found the Bad Effec in their Own Families.

The Poinon Not Confined to Green Tints.

In Other Colors, Also the Finish.
An Wfiort to Pass a Law to Prohibit the Sale.

## Letters from a Reliable Nourc

 Recommending a Snbistitute.Trrom the Boaton Medical and Sorsioal Journ

## gRPORTS OF SOCLETIES

HABBACHUBETTB MEDICAL BOCIETY Jaruary 12, 1887. The meeting wa oalled to order at 8 o'olook by Dr. F. I Krioar, Ohairman. The Chairman an ling to publio from

## rsentoal Wall Papors,

and called upon Dr. J. R. Ohadwiok to open the disoussion.
Dr. OEADWIIK, in response, prosented cocurrence of arsenioal poisoning in his own family* on several distinot occasiona and apoke of the unoertainty which exista in relation to the prosence of arsenio in wall papers, even when the dealer pre venta the certifiloate of a chemist as evidonce that the papers are free from this remarks, Dr. Chadwiok offered the fol Lowing reeolution:
Resolved, That it is the opinion of this meoting th thi and ovidence airead tabliohes beyond doubt the fact that arsenioal wall papere will, in many instances, produce symptoms of poisoning by arsenio in persons ocoupying the rooms whose walls are covered by such The reeolution was seconded, and wis than deolared open for disoussion.
Dr. C. E. Sreprans said that he had little to offer to the remarks of those who had proceded him. Some years ago he purohased well paper from a firm now walls of his houes. For two or three years the ocoupant of that room was continually ill, the aymptoms being a pervistoat diarrhoea, with coliokg paing, eto and finally, a nevere form of vorems an pervened, for which various forms of troatment were ineffeotually tried, and 'at length the patient wns placed under the oare of Dr. Wiggleaworth, of this Society. At a later period, Dr. Stedman for a time ing room for himsolt, and soon became ing room for himsoil, andering from an obsoure form of ooular disese, for which he consulted Dr. Wadsworth, of this Sooiety. After some time, Dr. Wradsworth suggested the posesiblity of arsenioal poisoning, and
that the wall paper might be the source that the wall paper might be the source
of the trouble, when the paper was subof the trouble, when the paper was subound to contain

4 Largo Amount of Arsenio. The paper was at once removed from the walls, aince which time there has
beon no reourrence of the aymptoms of poisoning, or, in fact, any other signs of the tamily.
Pron. D. G. Lrox, of Oambridge, was oalled upon by the Chairman, and saia the publication of a long account of th troubles which had occurred in his house
and family, for which, in his and family, for which, in his mind, there exietod no cause, except the arsenical pa-
per on the walls of his house. His fam. per on the wals of his house. His fam. Lyon, himsell, and another instructor in the Uoivcasity. They were all affected by = variety of distressing symptoms, one
of whioh was persistent insomania. It was almost impossible for any member of the family to sleep at all. In addition to thia, a common system was pain in the head, palpitation, general debility, etc., which proved refractory to ell methods on trealment for its rod , but the acians were distressing conditions, which now began
to osuse aorions alarm. Prof. Sanger wa consulted, and he examined the furnace, sewers, eta, but being unable to locate
the trouble in either of these parts of th household apparatue, he at length suggeated the poeibility of the wall pape
being the agent which had operated disastrously upon the fanily.
dhis wa immediately submitted to chemicol anal ysis, and yielded a large amount of ar

I had recently read," continued the speaker, "the admirable paper of Prof.
Wood on the Wood on the subject of 'Poisoning from
Wall Papers,' and observed that the Wall Papers,' and observed that the aymptoms which he there recorded were by the members of my family, from cirimilar to in the artiole by Prot. Wood.
"Four rooms were covered with paper arsenic, as determined by ohomical anal arsenic
ysis,

The Papers Wore at Onoe Eemoved. And the immediate result was the entire and rapid disappearance of all the aymp and whictr had thus far been quite unat leoted by any form of remedial treatleoted b
ment.
"Cher
"Chemical examination of the wal papera of different dealers, a year ago the papers in the stook of the Boston dealers contained a much larger amount of arsenic than the bill at that time preented beforo the Leginiature asked fo which manuractarers limit the that a law contained in wall papars would eorionsly affeot their trade, and that cortain form of papers cannot be produced without the aid of arsenic, or, at least, withou the use of sabstanoes in which arsenio
may exist. Within a atone's throw of my house in Cambridge are families which have suffered more than my family did. In all parts of this Commonwealth, cases poisoning from the use of areanical thees people is only for a law by which they may be

## Protooted From a Dangor

Which they have no means of recogniz ing for themselves. Those people who bought wall-papers in Massachusette, and speciaily in Boston, a year ago, assumed iliee, from the the healu of heir fam of aruenio in the wall papers. I could re port more than forty familiee thus affect ed from this cause."
Pron. E. B. Yousa said that ho has has he ever published anything in the papers in relation to the dangers from arsenic. He has been

Liong But Bllont; Sufforer From the effects of poisoning by arseni in wall papers in his house. In his oass tion of both eyes with continual laesi ude, weakness, eto, His daughter, for merly strong and robust, became weak languid and feeble. Prot. Young himbol was not well. The occurrence of such an amount of siokness in his family without adequate cause, made him anxious. Ho mployed men to overhaul the sewers of ood condition At this time Pound in suggeested the possibility of arsenio sa the sause of their discomforte, and the papen of the house were at once subjected to analyala. In a

Light Blue Papor Arsanio was found to the extent of 4.97 grains to the equare yard. The paper of the sq
led

An Affeotion of the Throat, or which she was placod under the car meeting, and, as she did not impore this was sent to Dublin, where she began to get better. After a time the urine wa examined, and was found to contain arsenio. After the restoration of the house the daughter's

Hoalth Was Again Restored, And a letter from her physician who has the report, "no trace of arsenio in the arine at present." In the dining room ot the house arsenic was discovered in the paper. The result of all this had been to a great amount of anciety money, as well as ime; and we teol awxiety, through a lon to demand legal protectione the righ known and recognized source of danger
to our tamilies. 0 Nobady senic causee all the illnoses in familios,
but it undoubtedly causes some of it. Pror. B. S. Wood, of Hervard On Nobody thinks arsenio does any good in versity, was nert oalled upon by the the papers, and it is certainly better out Ohairman. He atated that much had ource of poaibn to be thus a oonstant ource of possible danger. Another case of Jamaica Plain, who was ill from an of Jamaica Plain, who was ill from an papers were found to contain arsenio She was quite well soon after the old papers were removed Another oase was

## as mittro Family

In Oambridge, the name of which wonld
 ns unmiks of literature, in which there stance a house, one room of which

Possonsed the Peouliarity
That overy person who occupied this partioular apartmont was certain to become
ill. Each member of the family had in iil. Each momber of the family had in
turn oocupied this chamber, and each in turn oooupied this chamber, and each in
turn had been similarly affectod. The turn had been eimilarly affeotod. The
paper trom the walls of this dreaded paper from the walls of this dreeded
apartment was analyzed and contained a very dangerous quantity of arsonic. An Episoopal olergyman and his wife wore both poisoned by arsenioal paper not long
since. The husband was confned to the bed in the room, and grew worse, while the wife, who was not so ill, but could pase a good portion of the time ont of the om, was not so serioualy affected.

Anothor Woll-Marked Oaso
ocourred in Walthim. Perhape the most musing fact, however, is that Prof. nager was himbelf poieoned last sum. oom which was papered with highly ar anioal papor, and was soon made ill by it. Prof. Young then passed specimena the papers removed from his house, to the members of the Society, remarking
thate is absolutely no way in which reenical papers can be detected except. ng by chemical analysis, and that thereore the most oareful selection is no prosotion against this danger.
Dr. Edward Wragubsworth said that he had but little to add to what had leen said in relation to the dangers from said in
arsenic
own

Family of Four Porione From this cause. The symptoms were ot alike in all, bnt were clearly traceable to the papers on the walls. His little boy soon affected with conjunctivitis, and was anmmia, anorexis, anæmia, anorexia, etc. The paper was
anslyzed and found to be arsenical. His littlo girl next showed the same symptoms. Dr. Wigglesworth atated that both he and his wife

Are still II Trom the wiflote Of poisoning, and the papers were found amount of arsenic whioh has been considered the limit of safety. When the ymptoms of poisoning first beoame evident, the cause was not recognized, and a journey to the South was made with the

Entiroly Disappeared.
On returning, howevor, the original dis לarbances again appeared in their former intensity. The paper was removed, and Dr. Wigglesworth next alluded to cases $t$ eczema which had been found to be ue to arsanic. A child had been under to best of care beforo, and nothing in rendered that had not been most conscientiously carried out. When placed unde' the care of Dr. Wigglesworth, he at once decided that there must be bome unsuspected cause for the diseases He went to the house of tho patient, who was a dispensary case, and examined the ppumbing with greal care, and also inHe at length decided to have the wall contain
Arsonio in Largo Amount.
The child was removed to another not well. Upon removing to arbther house, however, there was complete re covery from all symptoms of disease. The danghter of a medical friend was soriously ill, with symptoms which would vot yield to treatment. The paper on the Loaded With Arsenio.
In the house of a relative is one room Which seems to be a source of disease to proved nearly fatal to two persons and nany nore who have been ill from ocouying it. The cause was not suspected until the paper was examined and was
found to contain a very large amount of
oen anid about the way in which th arsenio is separated from the body of th paper. He thinks the ohief danger come from the dust whioh is constantly
being given off from the paper, an bing given off from the paper, an
whis contained in the air of th room, by which it easily comes in contac with the mucous membranes of the eyes, nose, and throat. It is needless to say that
No Color Onn Bo Pronounoed Irree From arsenio without a chemical analysis carried out in proper form. There is aometimes a discrepancy in the results obtained by different ohemists, owing to oan be connidered as reliable, which doe not insure the destruction of the organic matter in the paper tested, as the fir

It seome Uso
to Dony Whe danger of poisoning from arsenica wall papers, when a person occupying a
certain room is made siok; the person re covers on changing the room, and is at once again prostrated on returning to th ormer room; finally, on removing th paper from the room, or on removing to from all symptoms of trouble.
Di, $\mathbf{K}$. Sturgis stated that a case o poisoning was known to him, in whio the paper had been upon the walls of th room since the year 1873.
Dr. Hexry Carmiohari, late of the
Faculty of Bowdoin College, Faculty of Bowdoin College, was intro
duced by the Chairman, and axid that duced by the Chairman, and said that he
had been occupied in the analysis of wal papers during the last ten yeare, and that the coincident illness, the accompanyin symptoms, were present at that time in the same form as they are observed to day. Some of the papers analyzed in Maine contained no less than two and one-tenth grains of arsenic to the square yard. There is no protection without an
alysis. No eye can discern where the as senio is deposited, and no other mean will adequately deteot its presenice There is no need of a olearer understand ing upon another point. When we say that a paper is free from arsenic, what d we mean? If we mean that the pape does not present the indication of minut traces of arsenic, then it has not bee my fortune to have discovered any paper
free from arsenic. All papers will pre free from arsenic. All papers will pre
sent the traces of small amounte of this substance, under any circumstances. Dr. F. W. Draper spoke of his re eearches upon the dangers of arsenio to those employed in its use, or exposed to
influences. He said that he did not con influence. He said that he did not consult the employer of the men, or the co tractors who did the work, but that h went directly to the men themselves,
From them he learned that those men whose daty required them to be in the presence of the arsenic, and to handle it were often sick, and not intrequently is difficult to to suspend their labors, I made by one of therestand the statement ing, that constant employment in contac with so powerful and injurious a substance as arsenic should be without harmful influence upon those so exposed The Secretary read a communicatio
trom Mr. Gregory, a proninent wall papers, regretting that illness pre vented him from being present at th meeting.
Pror. Lxon said that he could place in the hands of the Society the proote, in the form of letters, from thirty or fort tamilies who have sufered from arsenic DR. B. F. Deans of wall papers. peers of olmost any manufacturera ma contain arsenio even if the color is abeo lutely free from any appreciable amoun of the poison. There are two principa questions: First, how much arsenio is renlly present in honest and well-selectec
papers? The eecond question is: Wh papers? The second question is: What
is the minimum quantity of areenio which may induce the symptoms of poisoning? One undoubted form in which arsenic may be liberated is in the form of arsen-uretted-hydrogen, from the presence of
arsenio acid in contact with moulding substances, which evolve the hydrogen
$\mathrm{DaR}_{\mathrm{D}} \mathrm{O}$ Oradwrek, in olosing the disous sion, said, that he had but little to add to what had been said. He remarked hat he would have replied to some of the observations of Mr. Lee, but as that genvert to his remarks in his absence seems, however, a little like supereroga not discriminate between the symptom of ursenical poisoning and those ooca
sioned by other diseasea, Dr. Chadwicb believes in continual agitation of this $\mathrm{m} m$
portant matter, and hopes it will not b.
susceptible to the poisonons ertects of arsenia. I pass around samples of the papers with the arsenical mirrors
tained by the Berzelius-Marsh test. - I should add that the two aff hildren have had no symptoms since the paper in my nursery was removed month ago.
Arsenical Wall Papers Agatn.
(The Baton Medical and Sargical Journal.).
Bosion, March 19, 1887. Mr. Ediros:-I have been very much intereated by the recent articles on arsenical wall paper poisoning, and beg to be allowed to contribute another case which ago I had occasion to have my house re docorated. and having heard a creat deal I wes very partioulse to elet papere I was very particular to select none but
guaranteed papers. These were furguaranteed papers. These were fur-
nished by one of our most reliable honsee who showed me certificatee of freedom from arsenic, signed by a Mr. Lee, a chemist, who was at that time employed by the firm to make analysis of their papers.
Atter the completion of the work, one of the bedrooms was occupied nearly two years by a gentleman who constantly ing, of not feeling well, bnt with moraing, of not feeling well, but with no very
distinct symptoms. The same room was distinct symptoms. The same room was
next occupied on two separate occasions by a guest, who each time left the house with undefined illnees, which was of autficient seriousness to warrant a consultation with a physician. Another guest
was affected in the same way. Still another complained after a few days occupancy, of sore throat, coryza, and irritation of the nose and eyes, and headache.
A little more than two months ago the room was occupied by my daughter and partioularly the beby, that my doughter cut her visit ahort in order to got the ohild home to her husband, who is a physician. It was by him suggested that the seoret of the trouble with that particular room might lie in the wall paper, and I therefore eent a specimen of the paper to Dr. Charles Harrington, of the Harvard Medical Sohool, who reported that it contained a dangerons amount of arsenio Messers. Gregory \& Brown, on being informed of this fact, hastened to do everything in their power to remedy the
trouble, insisting on removing and replactrouble, insisting on removing and replac-
int the paper at their own expense. This Fas dene, and since that time there has been no trouble of any sort. In this case tho blame recis not upon the dealere, but upon we cbomist, who, 1 am informed, is no longer in their employ.

Yours very truly,
A. V. S. Anthony.
(From the Boston Erening Traneoriph, Maroh \& More About Wall Paper. Edrtor Transcorrp: I wioh to add
my testimony to that of Professor Lyon my testimony to that of Professor Lyon of Cambridge, which has recently been bealth has been a great myetery to il as some of the symptoms were very peouliar, particularly the excessive exhanastion and impaired nutrition. I have aleo had a disagreaable, metallic taste in
my mouth that has made me quite my mouth that has made me quite
wretohed. Since having several papera analyzed in sleeping and sitting rooms and finding a large amount of arsenio in them, the mystery is fully cleared in my own mind.
What can we do about it? How oan we eecape from this evil, and where can
we go that it is not? we go that it is not?
It enters our houses like a masked
fiend in the dark. We know nothing of fiend in the dark. We know nothing of dear ones are stricken down with singular attacks of ill-health that baffle the highest skill, and at last we begin to wonder and make inquiries; then the fiend is unmasked and appears in all its evil power! It is clothed in most beauti-
ful forms and colors, that delight our ful forms and colors, that delight our
oyes and please our fancies; but we did eyes and please our fancies; but we did
not know until lately that it was the vesture of a terrible destroyer. With what shall we adorn our walls and houses?
Will any one solve the problem, and serve his fellow beings by so doing?

## [From the Cambridgu Tribane, Feb. 27. 188

Arsenteal Wall Paper.
Edifor Oambiriv Tribuse: -I was much interested in Professor Lyon's com munication on the subject of arsenical
poisoning from well paper, which appearpoisoning from wall paper, which appear ed in your journal a fow weoks since, and
wish to thank him for the good he has done.
Some of the eymptoms he described had been noticed in members of my own
family $\rightarrow$ we had moved into a new hovse tamily-we had moved into a new house
in the fall-and without much faith in
getting "results" I sent to one of th
United States chemists in Washington for, unalyeis, several samples of. paper trom living rooms, or those rooms most
occupied by the household. In due tim occupied by the household. In due time
the reeults of analysis were received, and we learned to our surprise that the paper upon the walls of two up-stairs rooms contained arsemic, to quote from the
offliaial reply, to "a large amount, so great offlcial reply, to "a large amount, so grea iny room frequently ueed, ny room frequently used, or, at leas, for
sleeping purposes." Since the walls have been scraped most of the unplesen ymptoms have disappeared-all. will doubtless, in thee, and we feel amply repaid for all the tronble we have gone through in having the paper removed. If the publication of this bit of experi ence will help to convince the skeptica or assist in calling publio attention to an
outrageous state of affairs that ought outrageous state of affairs that ought th
be remedied by law, I am glad to offer it Oiss. Riohards Dodar. Maplewood, Mase

## Wall Respiration,"

The Walls shonld Breathe.

## Paper, Paint and Kalsomin

 Prevents this Breathing.
## ne Wall Coating Recomme

ded as Pure and Proper.

## youn homes.

## Interenting Facts Cited by Proreaso R. C. Kedzie Relating to Wall Res

In a lect M. D., formerly president of the Mich state Board of Health (now professor chemistry in the Michigan Agricultural
College), the professor says:
Ventilate every room in your house. I ask you to do this, first, because there is plenty of raw material for that purpose; and, secondly, because it is necessary fot
health. Think what an abundant circuhealth. Think what an abundant circu-
lating medium (current-cy) we have for lating medium (current-cy) we have for
this very purpose in atmospherio air this very purpose in atmospheric air
Fortunately, congress cannot expand ot Fortunately, congress cannot expand
contract the circulating ourrency of life This ocean of air-an ocean without island or shore, with its restless tides and currents, its waves of continental sizo
-is too vast and pure for us to contaminate it in mass. We may pollute here and there a puddle of it, but its massive purity is like the love of God, too great
for human defilement. This purifyin for human defilement. This purifying
element penetrates, directly or indirectly, avery fiber of our being; it washes, purifies, and saves us every moment of our
lives, from birth to burial. Yet how we rrangements of our dress, in parlor and bed-chamber, in school-room, church, and hall, we beek to exclude it, and to atifle it as it it were our deadly foe. We breathe it only because we must, and most of ue
breathe it as little as possible. Tho breathe it as little as possible. Thon-
sands of consumptives every day go weeping to their gravee only because hey would not breathe enough pure air to keep their lungs healthy. Yet this
puritying and saving element is ever seeking to enter our dwellinge, rattling
at our windows, searching every crack and opening by which to enter to give us lite and health; but if by any chance it enters, we only complain of the draught; any friend opens a door or window to let in this cheorful guest, we sarceastically
aak him it he "was brought up in a barn!" Air, onoe breathed, is unfit to breathe again; turn it out to gravs, like Nebusoundness, for vegetable life repairs the defilement and destraction caused by animal life, and restores sweetness and
health to pulluted air. But this contamhealth to pullated air. But this contam-

ination of air by respiration is invisible. | ination of air by respiration is invisible, |
| :--- |
| Neither sight nor touch will reveal it | presence. The black and sooty carbon, when it has seized its two wings of ox

gen, becomes totally invisible, and floats gen, becomes totally invisible, and fioa
unseen like a spirit. If this oarbon, ansoen off from our lungs in the form of carbonio acid gas, remained visible like
empblack, there is hardly a housewife in the land who would not awake with gasphing shudder to see her bed-room
filled with this black smoke sent oif from filled with this black smoke sent oif from windows, and clear out this horribl black dust!" But because this dirt is invisible, she regards the air of her room a
clean. But though it lurks unsen, power for mischief is not destroyed; it is

## tamination which provee such air for respiration.

What did you build your house for, to live in, or smother in? Judged by what conclum at in house building, we should conclute the houses are mainly planne pentry, whioh jeaves cracks and openinge everywhere, thanks to the penetrating quality of air, which pierces brick, mor tar, wood, and everything of which house are built, exoept metals and glase, every house has some ventilation; we need by chor of hope into the acean of life doors An old writer says: "Whan men lived in honses of reeds they had con stitutions of oak; when they live in houses of oak they have conatitutions o reeds." The patriarch before the flood whose life stratched out into centuries was a dweller in tenta; when we com down to the time when men left the air tent to dwell in the ceiled houses, we aro told "the days of our years are three score and ten; and it by reason of
strength they be foursoore, yet is their strength they be loursoore, yet is heor cat off and we fly away." Is this the final verdict in the great ohancery suit of Tent versus House?
In speaking of materials for a hous Iter allustrating with a blow-pipejet àn ighted candie, how readily air passe
through plaster, also through a brick wall, he says:
The amount of that will pass through this diminutive surface is emall but. when we come, to apply it to the dimensions of a room, it becomes large. The experiments of Profesyors. Marker and Shultz ehow that the passage of air through brick walls is by no means difi cult. The difference of twenty degrees
Fahrenheit in temperature between outFahrenheit in temperature between oul
door air and in-door air will cause pas door air and in-door air will cause pan
sage of about eight cubit feet of air each sage of throngh every square yard of wall surtace made of brick. That air readily or rall under natural conditions of temper ture may be seen by looking at an plastered wall which has been for some time undisturbed by kalsomine or white wash; the position of the beams and joiste behind such a plastered surface can be
eadily determined by the broad band readily determined by the broad banda
of comparatively white surface, the lath, by the whitish lines crossing the joista a roguiar intervals, while the spaces be are seen by the narrow and dark lines between the lath. The reason of this be comes evident on reflection. The plas ered surface, while permitting the pB8age of air, arrests the passage of all solid bodies, and thus acts the part of a iter to the air. The air holds a tine dust will bo filtered out and left behind, when the air passes through a plastered wall, where the air passes most rapidly, the
most dust will be deposited on our filter most dust will be deposited on our filter,
and where less nir pasees, a correspond-
mig less amount of dust will You thus see how admirably a plas tored wall is fitted to make the walls of healthy dwelling, beoause it permits, the free passage of air, without causing
draughts or unhoalthy currents. Let us see how this wall respiration may b affected by oome common practices. m often asked, "What is the influence of wall paper on the healthfulness of a
com?" Let us test this question by ing whether ais test this question by see vall paper. I place a pieco of wall pape low air through it; you see the flame oly very feebly swayed, but if I ase thi filter paper in the same way, I readily cy on the colors of wall paper, fille th pores of the paper so as nearly to preven a passage of air, even when we blow orcibly: but with the additional paste used to fasten the paper on the wall, the Jver the plastered mouth of this pipe I have pasted some thin wall paper; it it now dry, but you see I cannot blow th east air through it. A papered wall is strangled wall so tar as wall respiration i oncerned. When a wall is kalsomined the whiting and coloring material being
laid on with a solution of glue, the wall and on with a solution of glue, the wall
ecomes impermeable by air. Here is a pipe, the mouth of the bowl filled with wortar, and this covered with kalsomine ninute trace of air can be forced thround t. The same is true of a painted wall Here is another pipe filled with morta have very thoroughly whitewashed th oxposed face of the mortar, applying two coats of whitewash, yet, you see, I ca
blow nir through it nearly as easil as through rough plaster.
The tidy housewife looks with contempt
o quick," while she feels proud of her alsomined wall, "beocuuse it keeps olea reathe the one gets dirty because it loes not breathe keeps clean becanse ngers, when ouce washed, keep clean nt the live baby's fingers forever find th iirt!
A painted wall is atill more imporme he by air. A stuccoed wall or "hàr nish" permits the passage of air ver whitewash
A house must breathe, to be healthy ust as truly as an animal; but a we vall, a papered, a kalsomined,* or ainted wall, is a strangled wall. If wo could build our houses of material utter y impermesble by air-make them o ooiler plate, Hveted steam-tight-w rould speedily die off and give place to very part of the whody must breath hough we have a apecial apparatus fo respiration on the large scale; just so healthy house must breathe throngh a its walls, while yet provided with a specia pparatus for ventilation or breathing o a large soale.
Every garment we wear, except thos made of rubber, gives ready passage to low the the thickest overcoat lame; through this leather boot-leg sway the flame; through this thick buck kin I puff out the light instantly. W ear much of the hygienic value of per orated buckskin; it would be equally arment must be penetrated and washed only a huge overcoat!
In 1874 the State Board of Health pub In 1874 the State Board of Heaith pub "Shadow the Walle o Deuth" placed it in all the public libraries of th State as a warning, to which they earnest y called the attention of a health-loving eople.
our giving more of Prof. Kedzie lec of our
ture.]

## Professor Kedzia's Leiters.

## A Substitute for Paper.

We consider the following letters from the late President of the Michigan
State Board of Health and the author of State Board of Health and the author of worthy of consideration:

Drar Sirs-At your request I have Dalyzed specimens of Alabastine manuroctured by the Alabastine Company of Grand Rapids, and find no traces of material was carefully tested for arsenio and copper, but none could be found y study has been Alabastined, and I am llabastine mased with the ral covering to walls, and seems to be free from any tendency to crack or scoale. It also free from any disagreeable odor.

Yours truly,
R 0. Kzpars,
Professor Chemist

Dzar Sras-The Alabastine put on the walls of the Chemical Laboratory mor han four years ago is in as good conition and bright in appearance as when rst applied, save where water from tine Beems to grow harder with age, makig a firm and coherent covering, and ha tact, as whitewash and kalsomine will, m well satisfled with Alabastine.

Yours Faithfully,
R. C. Krdzie

This artiole has been on the markot for many years, and long enough to prove hat it is a permanent cost as "a atone ke tint that hardens with age, as olaimed, though some painters still uss. their es which they do not claim to b ther than a whiting and glue mixtur hat it must be taken off to renew from ime to time. There is one article called Anti-kalsomine that makes these same claims of permanence that are made for labastine, that it admite of laying on oat over another from time to time, and hardens with age, it ehows good testi

## Decorations with Pare Tints.

Leaving out the question of cleanli favor of a pure stone-like tint. We come
to the question of beauty and elaboration

